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HYDRO News

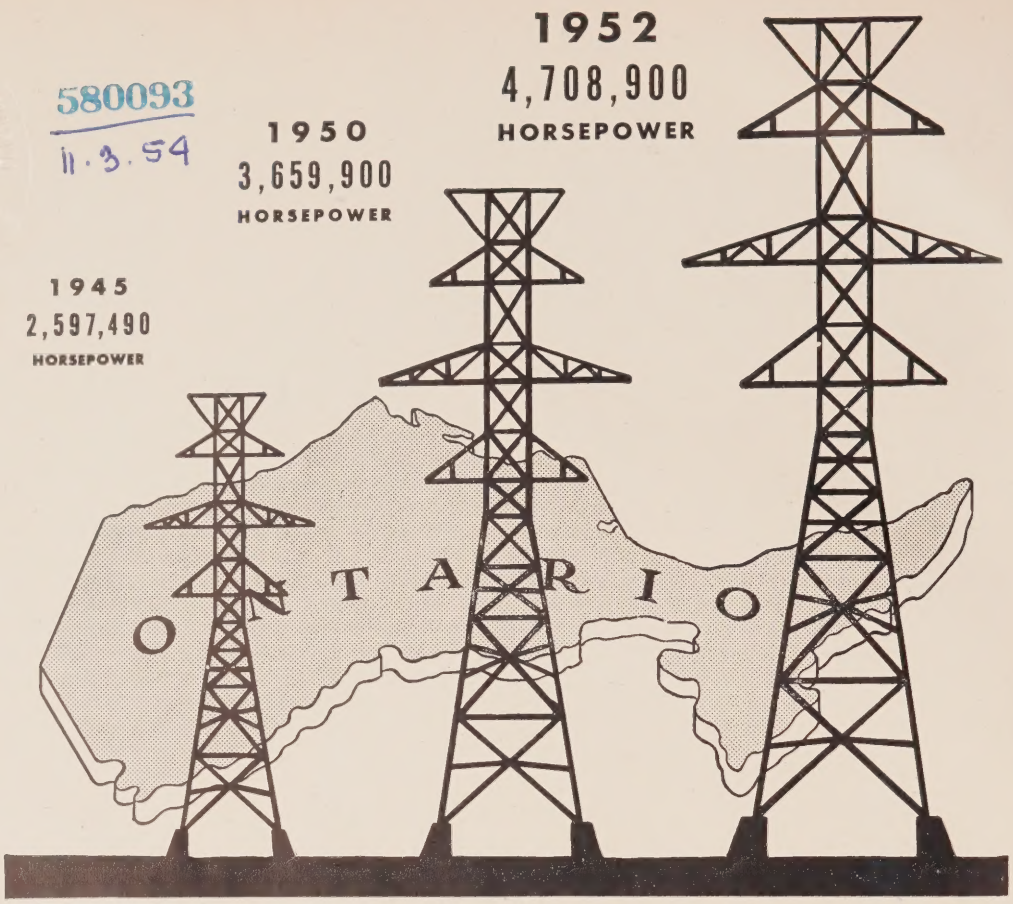


"HAPPY NEW YEAR!"

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VOL. 38-39 JANUARY, 1951 DECEMBER 1952 NUMBER 1

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HYDRO POWER SUPPLY NEARLY DOUBLED

Ontario Hydro has tremendously increased the scope of its service to the Province since 1945. Six new generating stations have been brought into production and two stations expanded in that time, bringing the Commission's dependable peak capacity (generated and purchased power) to 3,659,900 horsepower in December 1950.

By December 1952, three more generating stations will have been brought into production and the Commission's dependable peak capacity will be approximately 4,708,900 horsepower . . . 80% greater than the dependable peak capacity of 2,597,400 horsepower in December 1945. In addition construction now under way will provide still more power by 1954.

As a result of this, the largest development program ever undertaken in its history, Ontario Hydro is, we believe, doing its part in meeting the expanding industrialization of the Province.

More Power for Ontario

Generating Stations	Installed Horsepower	Generating Stations	Installed Horsepower
De Cew Extension	76,400	Pine Portage	80,000
Ear Falls Extension	8,000	George W. Rayner	56,000
Stewartville	84,500	J. Clark Keith (Steam)	240,000
Aguasabon	53,600	Richard L. Hearn (Steam)	536,000
Des Joachims	480,000	La Cave	256,000
Chenaux	160,000		

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

HYDRO News

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 UNIVERSITY AVENUE, TORONTO

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COVER SHOT

NO STRANGER when it comes to cameras. Susan, daughter of Hydro Photographer Ted Johnston, obligingly consented to be the subject for this month's front cover. Symbolizing the spirit of the season with a zest that surprised even her proud parents, Susan expresses a wish that we are happy to pass along to all our readers.

Volume 38 Number 1

January, 1951

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Now there is frost upon the hill
And no leaf stirring in the wood;
The little streams are cold and still;
Never so still has winter stood.
—George O'Neil, *"Where It Is Winter"*

Record of Achievement

IN crossing the threshold of 1951, Hydro can look back upon a year of tremendous achievement and look forward to still greater achievement in the future.

Despite the many and diversified problems with which the Commission has been confronted, such as phenomenal and unprecedented power demands that established a succession of new all-time high records, especially over the past six months, Hydro's accomplishments have, in themselves, been phenomenal and without parallel in the Commission's history.

June of last year was a record month in the matter of making additional power available to the factories, homes and farms of Ontario. During that month, actually within a period of three weeks, three new generating stations were placed in initial operation.

First, there was the 56,000-horsepower George W. Rayner station on the Mississagi River, north of Thessalon; next, the 80,000-horsepower Pine Portage plant on the Nipigon River, and then the Commission's largest post-war hydro-electric power project—the 480,000-horsepower Des Joachims development on the Ottawa River. Both the George W. Rayner and Pine Portage stations were operating at full capacity shortly after having been officially opened, while, by the end of 1950, seven of the eight 60,000-horsepower units at Des Joachims were in service with the last unit scheduled to be in operation this month.

In addition, three of the eight 20,000-horsepower units at Chenaux, also on the Ottawa River, are now in service. The remaining units will come in progressively and the plant is expected to be operating at full capacity by August of this year.

Construction is proceeding rapidly at still another Ottawa River site where the La Cave development had been 60 percent completed by the end of 1950. Located about 5 miles north of Mattawa and 65 miles upstream from Des Joachims, La Cave was originally scheduled to have six units delivering 192,000 horsepower. However, plans have been amended to step up the capacity of this plant by adding two additional units. The first generator at La Cave is expected to be in service this coming November and possibly two more by the end of the year with the plant delivering its maximum output in 1952.

At the same time, in order to protect the people of Ontario and help relieve increasing demands on hydro-electric sources, the Commission has been speeding the construction of two important steam-electric stations—the Richard L. Hearn at Toronto and the J. Clark Keith Station at Windsor. With demands for power continuing to pyramid and with conditions generally in Ontario and on the international scene pointing to still greater demands in the years ahead, the commission acted promptly and made provision for stepping up the capacity of both plants. In a fast-moving, five-day business trip to Britain Chairman Robert H. Saunders and R. L. Hearn, the Commission's General Manager and Chief Engineer, placed orders for the additional generating equipment and obtained agreement from the British Government for top priority in making the necessary steel available to the manufacturers.

Under the amended plans, the Toronto station will have a total, ultimate output of 535,000 horsepower and the Windsor station, 240,000 horsepower. Both plants are scheduled to be in initial operation this fall and to be operating at full capacity towards the end of 1952.

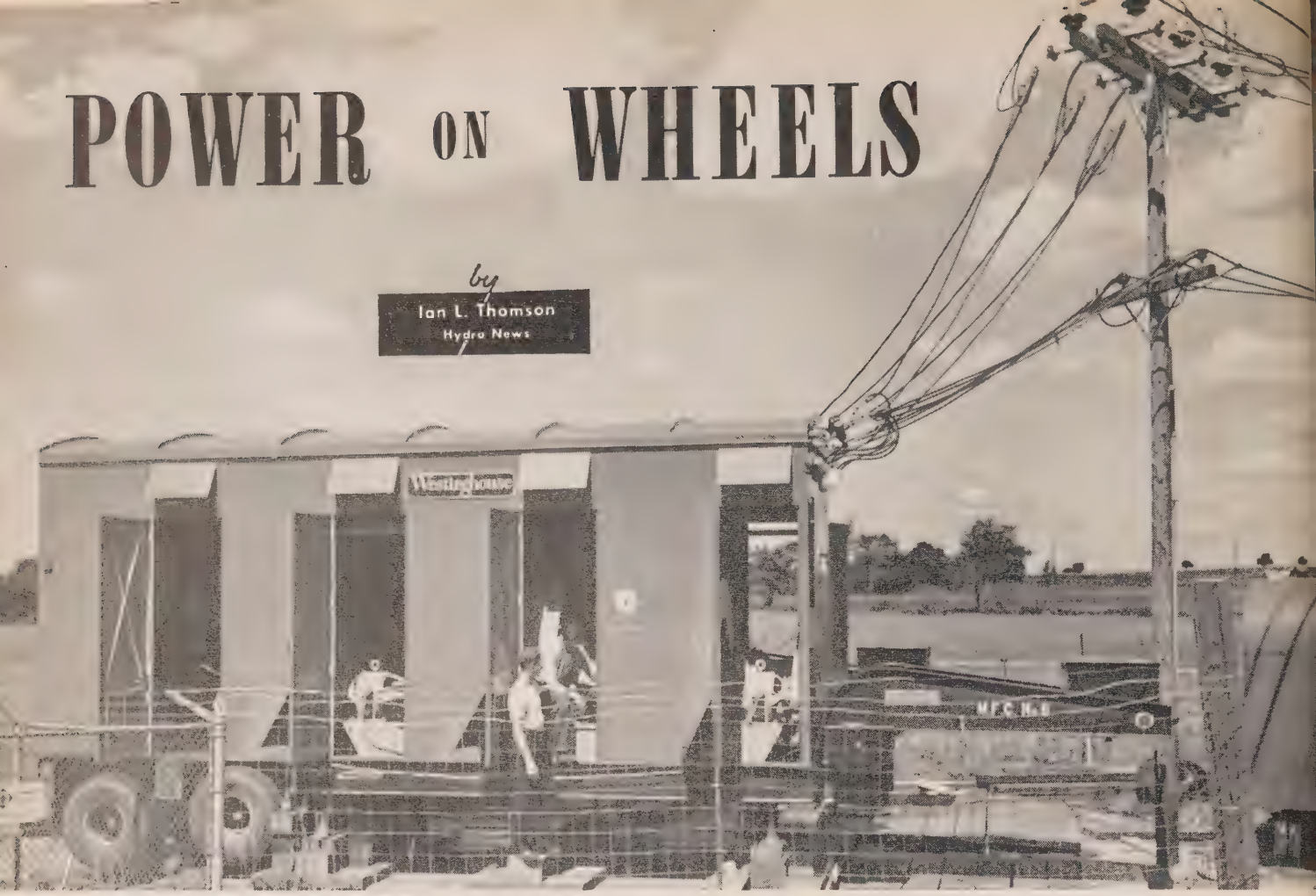
And then, what of the future? The most important news, of course, is that preliminary work is now proceeding in connection with the construction of a new and important hydro-electric project at Niagara —a project which, when completed, will rank as one of the major undertakings of its kind in Canada. To be known as the Sir Adam Beck-Niagara Generating Station No. 2, this plant will develop approximately 600,000 horsepower and will cost an estimated $157,000,000 to build on the basis of present-day prices. Every effort is to be exerted by the Commission to have this development in operation by the early part of 1954—an effort which will be governed largely by the availability of adequate supplies of all necessary materials.

In considering the future outlook, Hydro is eager also to proceed with the St. Lawrence development. Only recently, Chairman Saunders, on his return from Washington, again strongly emphasized the urgency of going ahead with this project which would make available 1,100,000 horsepower to the people of Ontario and a like amount to the people of the United States. He has expressed the hope that the way will be cleared without further delay in order that the St. Lawrence may become a realization.

While these facts do not record the entire story associated with the Commission's record of achievement in the past and of the tremendous tasks ahead, they do highlight the pre-eminent role of Hydro in relation to the onward march of progress in Ontario and Canada. It is a record which assumes an added significance in the light of present-day conditions throughout the world.

POWER ON WHEELS

by
Ian L. Thomson
Hydro News



MOBILE FREQUENCY CHANGER, one of many pieces of mobile equipment used in standardization activities, is shown in operation near Sharon Distributing Station. Operators Fred Mabee (left) and Keith Blackwell were caught by the camera when making a routine check of the equipment.

KEEPING AN EYE ON OPERATIONS at Sharon, last changeover point in the Simcoe operation, Harold Ainsworth, Area Distribution Engineer (left) and D. A. Mitchell, Plant Engineer, are silhouetted against one of the two large frequency changers used at this location.



RESPONSIBLE for designing and supervising the changeover of vast line and distribution station networks feeding areas due for standardization, the Station and Distribution — Frequency Standardization — Sections of the Electrical Engineering Department are playing a vital role in Hydro's Frequency Standardization program.

Included in this important work is the design and installation of all station mobile equipment needed to fill the gap until 60-cycle power can be fed from nearby points. To date, approximately $1,750,000 worth of equipment has been purchased.

In addition to these activities, these sections are responsible for the installation, at strategic locations throughout the province, of new 60-cycle transformer stations which can supply power at dates scheduled in the overall program.

An idea of the magnitude of the whole task can be gained from a recent survey of the Southern Ontario 25-cycle system which revealed that it would be necessary to standardize approximately 300

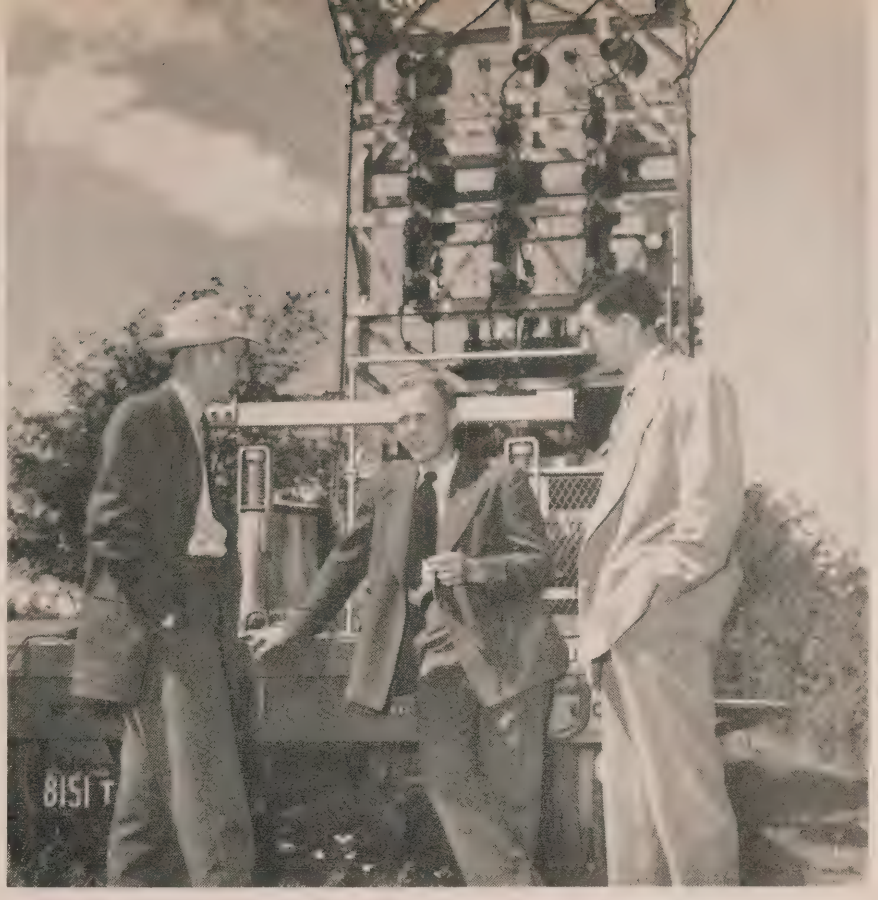




distributing stations and 200 metering installations, as well as some 30 large and 30 small transformer stations. The program also involves the standardization of frequency-sensitive equipment owned by approximately 150 municipalities, including 50 municipal stations.

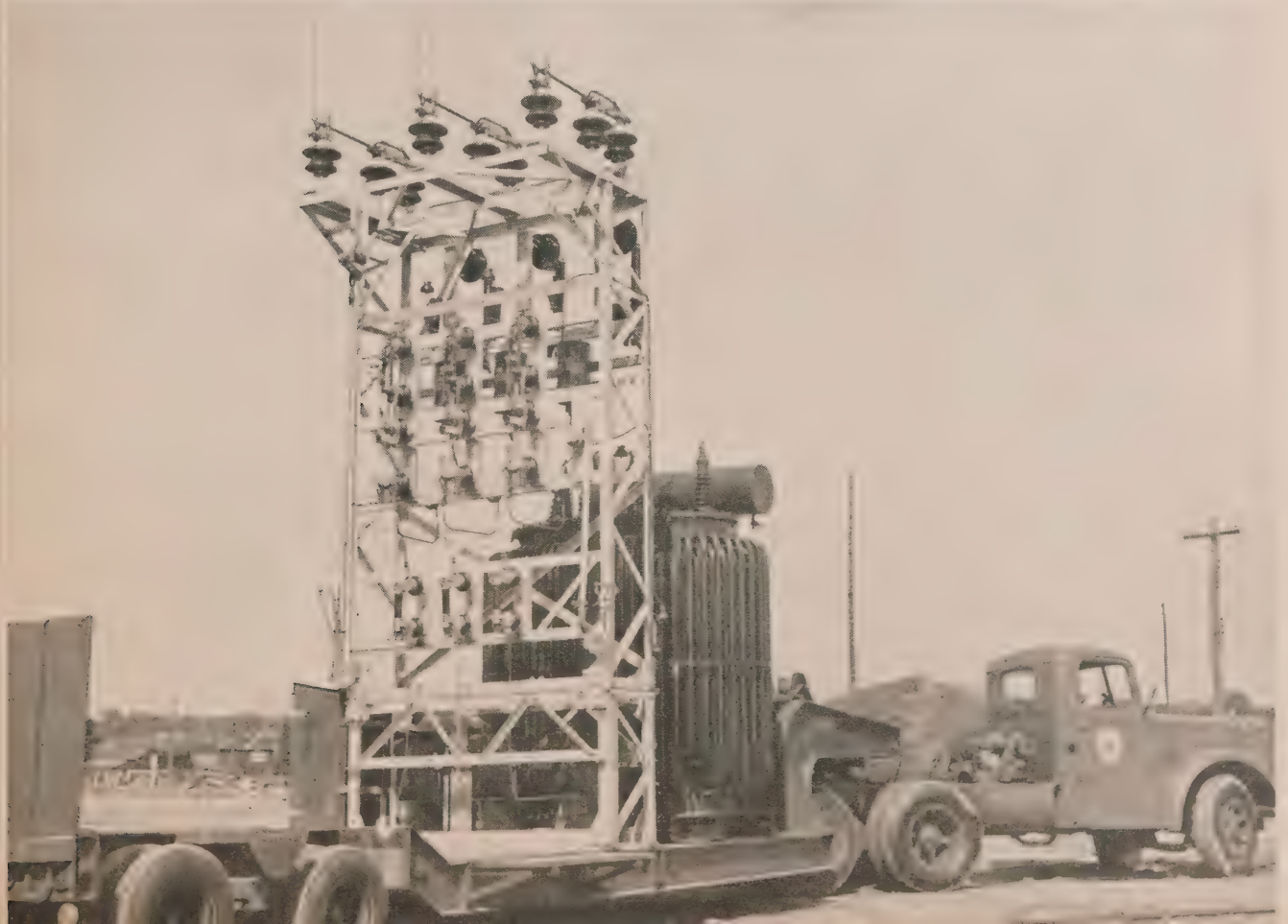
Other Ontario Hydro Divisions and Departments also work in close co-operation with the two sections, for apart from the planning and control of the changeover, there is a vast amount of field work to be done. This work is carried out by the Construction and Operations Divisions. Also, during the actual planning period, there are consultations, involving the System Planning Department and the Frequency Standardization Division, and leading to the authorization of the master "blueprint" which governs the entire operation.

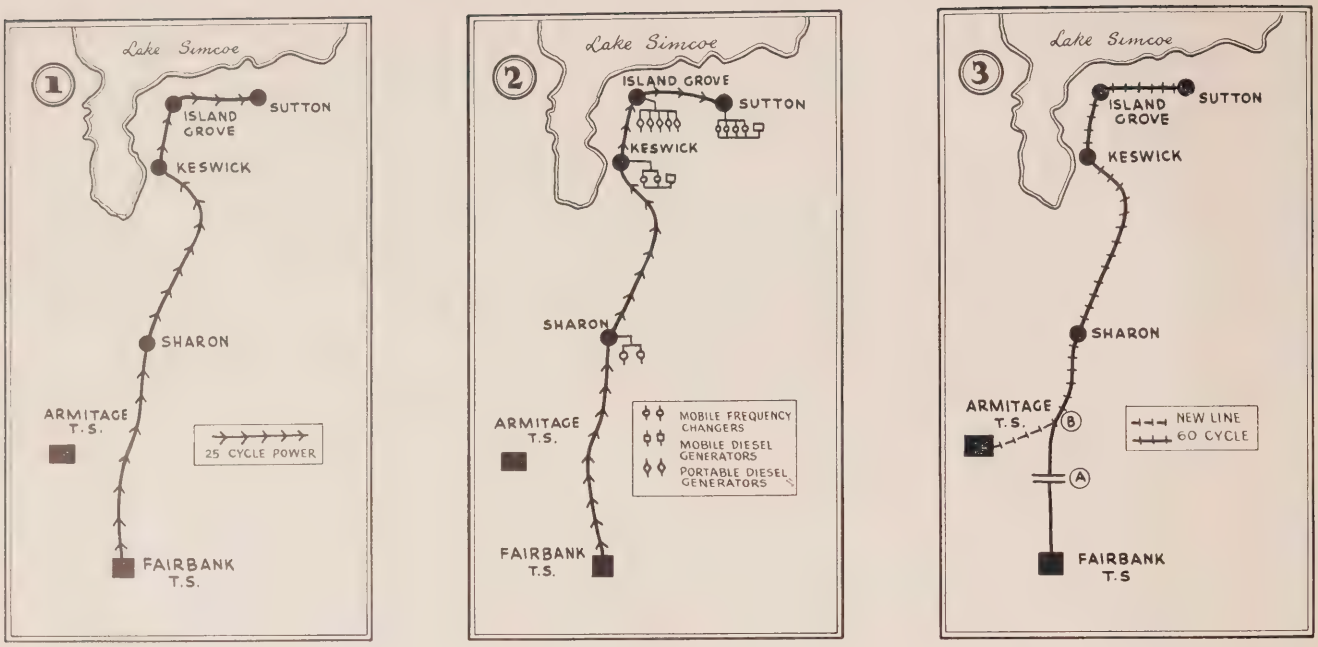
After obtaining the approved pattern from the Frequency Standardization Division, the two Sections detail the portions of each area which have to be "cut" first to ensure an even load on facilities. They also recommend the sequence in which distributing stations have to be changed over, and pin-point



MOBILE SUB-STATION in operation near Keswick provides a background while a short conference is held by members of the standardization team. Left to right—G. K. F. Pepper, Assistant Plant Engineer; D. K. White, Rural Area Manager; Doug. Scratch, Junior Engineer.

MOBILE SUB-STATION. Designed and constructed by the Commission it is used at strategic locations to facilitate the supply of 25 or 60-cycle power





1. POWER FROM Fairbank Transformer Station was transmitted at 25-cycles over a 26-kv line to Sharon, Keswick, Island Grove and Sutton. 2. Mobile equipment was installed at these locations and brought into play at time of cut-over for each location. 3. Once standardization work was completed at Sharon, last changeover point on the Fairbank line, the 25-cycle line was cut (A) and a link-up (B) was effected with the new 60-cycle Armitage Transformer Station, thus saving time and money by using the same main line instead of building new line.

where it will be necessary to use mobile equipment.

This detailed analysis of the overall changeover plan involves a tremendous amount of work, as there is no set plan which can be applied to any area with regard to the use of equipment, the re-distribution of power from various distributing stations, or the actual "cutting" sequence.

Many months have to be devoted to careful planning and calculating to ensure that circuits can carry the loads which will be temporarily imposed upon them. Calculations have to be worked out to ensure that adequate voltage is maintained at the point of consumption. Separate investigations are also made for each type of station equipment in the area, and even frequency-sensitive components within such equipment have to be considered with regard to operation on the new frequency.

The changeover of a particular area may also involve the construction of new transmission lines or the re-routing or erection of communication facilities. In this case two other sections of the Electrical Engineering Department, the Power Line Section and the Communications Section, are responsible for designing and supervising the installation of such facilities as may be required.

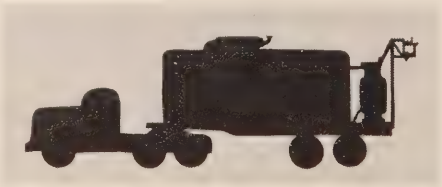
Simcoe Operation

An interesting case which indicated the complex task of the participating Sections was the recent changeover of the area south of Lake Simcoe. This project presented many difficult problems. On investigation it was found that costs could be halved with the extensive use of mobile equipment which could carry the power load temporarily on 60-cycles until distribution facilities could be changed over.

The accompanying line illustrations of the area show a main power line from the Fairbank Transformer Station carrying 25-cycle power through Sharon, Keswick and Island Grove to Sutton. It was decided to install mobile equipment at these locations and bring it into play at the time of cut-over. Still using 25-cycle power line facilities, the first cut was made at Sutton. Power passing through the local distribution station was fed into mobile frequency-changers, giving consumers with changed-over equipment a temporary source of 60-cycle power.

This process was repeated down the main power line until the final cut was made at Sharon. Once conversion work was completed at this point, the main 25-cycle power line was cut and a link-up effected with the new 60-cycle Armitage Transformer Station.

Time and money were thus saved by using the same main power line throughout the whole operation, instead of constructing a temporary 26kv line to carry 60-cycle power.



The successful use of mobile equipment, which helped to make such a step possible, reflects great credit on those responsible for its design. An instance which showed the adaptability of this equipment was brought to light when a unit was installed and brought into service on a few hours' notice.

Further Use For Equipment

This equipment does not, however, become obsolete after the frequency standardization program is completed. It can be brought into play when stations require servicing, and can also be used to fill the gap until new stations are built or to serve as a substitute station during an emergency.

In the meantime, with the Simcoe operation completed, the mobile equipment has been moved to other standardization areas to help supply the temporary 60-cycle link between source of power and its ultimate delivery to consumers.

Having played their part in another phase of the giant $200,000,000 standardization program, and working many months in advance of present standardization activities, the personnel of the two Electrical Engineering Department Sections are currently "blueprinting" future station and distribution system changeovers, thus helping to bring the increased benefits of 60-cycle operation to thousands of consumers in the 25-cycle "island" of the Southern Ontario System.

This and That

by The Editor

SINCE THE quarter-ton Stone of Scone, Scotland's Stone of Destiny, disappeared on Christmas Eve from Westminster Abbey where it had rested for more than six and a half centuries, many suspicious glances have been exchanged in the new, swank Business Men's Club at Toronto's Central Y.

These B.M.C. members, many of them Hydro lads, who donned shorts and rallied to the gym in response to the Y's blood-tingling slogan, "Build Better Bodies for Better Business," have been under a cloud. Under the darkest cloud are those who had been zealously devoting prolonged, seven-minute periods to weight-lifting and track work. Indeed, the situation became so untenable for one member who had likely bulges on his biceps and elsewhere, and who had been rounding the track in 48 seconds, more or less flat, that he issued an affidavit to prove that he had spent the Christmas holidays in London, Ontario, and not London, England.

And there you have it, even the Y's up-and-continually-coming noonday athletes, have been under suspicion since The Stone disappeared. Personally, and as a member with first-hand knowledge, we hasten to say that we do not think any one of them would be capable of stooping to perform such an act — not even Jimmy Wallace, the fast-moving, Scottish-born Membership Secretary!

But, let us consider the supposedly known facts about what may have transpired in the Abbey on Christmas Eve. They would seem to suggest that thieves are becoming "boulder" — very much "boulder" when one remembers the weight of The Stone. Bearing in mind that it lay beneath the Coronation Chair, some Englishmen have been inferring that its removal revealed a "deseatful" impulse on the part of some fiery Scottish Nationalists.

And then, there was another most unfortunate, ill-founded and closer-to-home rumor in circulation to the effect that a well-known Scot on the Commission staff had flown to London as a stowaway with ulterior motives in mind. It was suggested that he had been meditating about the fact that there is only one Commission pay-day in December with one cheque including the 15th and 31st emoluments. Having had to invest in a turkey, crackers and other extras at Christmas, this Scot, it was alleged, had been a little disturbed when he looked at his bank balance, and contemplated the period he had to wait before receiving his next cheque. (This is known as the period of "The Long, Lean Vigil.") Reportedly imbued with the desire to hasten the arrival of pay-day, he is said to have hit upon the idea of a dramatic and symbolic gesture. What more poignant gesture than he, "a Scot, couchant" on a stone outside the Treasurer's Office, to portray the spirit of abject penury or being "on the rocks" financially, as it were?! The dramatic appeal of such a spectacle, he is said to have reasoned, would be heightened if the stone were The Stone of Scone which is synonymous with Destiny. And, after all, one's destiny can be materially affected by money. Scots, in the past, he knew, had, in a sense, "moved mountains" in the interest of a worthy cause, so why couldn't he move The Stone of Scone?!

As we said, however, that was the rumor. So far, we haven't seen the rock round the Commission Office and we haven't seen "a Scot couchant." At the time of writing, Scots and everybody else appear to be rampant.

But, really, this whole affair is unfortunate. Just let us look back. Recognizing the need for building up his country on a sound and solid foundation, King Edward I of England removed The Stone from Scone to Westminster in 1296.



Any little annoyances, which may have cropped up between the Scots and the English, were all "nicely straightened out" at Bannockburn in 1314.

* * *

Down through the years, Scots have gone beyond the call of observing neighbourly amenities: they have gone across the border in large numbers to England. It was the right thing to do. England couldn't be left to flounder. Something had to be done to get things going and keep them going. As a result, they were able to sing during the last war "There Will Always Be An England."

It is simply not cricket at this stage for any Scot to withdraw his support. No doubt, the English fully realize they can still count upon the sustained and manifold ministrations of the Scots and that if The Stone were removed by any members of the Scottish race, then they were merly a group of irresponsible characters devoid of any sense of moral obligation.

* * *

AS IS OUR regular custom, we had a little game as we carefully placed our Christmas cards in storage for another year. The whole thing, we know, sounds silly, but it's quite relaxing. As we study each card, we visualize the sender. Then we try, in our mind, to project the sender and ourself into the scene portrayed on the card. If it were possible to show some of the pictures which appeared in our mind's eye, the reactions of our readers would be interesting, to say the least!

For example, we received one delightful little card bearing two bells with dangling chords and an angel hovering in the background. The sender is a 201-pound man, 6 feet 2 inches tall. He has a Charlie Chaplin type moustache and very little hair on his head. We tried to imagine this well-wisher hanging on to one chord while we were dangling from the other. Somehow with the angel in attendance we seemed just a little out of place. One kind friend did suggest, however, that with the bells in the scene, the card would still retain a certain "a-peal."

And now, to one and all a Happy New Year and a reminder that there are less than 280 shopping days until Christmas!

Joyeux Noël for NOELVILLE

IN a setting of glistening white snow and to the accompaniment of the soft strains of old, but ever-new carols, Hydro came to Noelville, Ontario's Christmas village, on December 22.

Despite the zero weather, practically the entire population of 535 crowded around St. David's Parish Church for the ceremony late that afternoon. Eight Boy Scouts formed a guard of honor on the steps to welcome the official party headed by Hydro Chairman Robert H. Saunders, who lost no time in shaking hands with the boys with the left hand, of course, in the Scout manner.

On behalf of the village, Rev. Father J.M. Leclaire welcomed the guests, and Mayor Aime Lahaie handed an enormous key of Noelville to Chairman Saunders who then pressed the important button. A tall, bushy Christmas tree at the bottom of the steps flooded the darkness with colored lights and the people of Noelville knew that their dream of electricity had, at last, become a reality. After the "ohs" and "ahs" had died down, the crowd moved en masse to the parish hall for a succulent beaver dinner.

On entering the hall, the guests were quick to notice that on the platform near the head table, the history of lighting had been depicted in tangible form, ranging from candles and the earliest lamps right down to a modern, miniature Hydro pole. Later, during the speeches, the story leading up to this community being served with Hydro was told, including the work of Father Leclaire and William Harvey, M.P.P. for the district, as well as the Hydro Chairman's part in this important event.

Mr. Saunders pointed out that now Noelville was a full-fledged member of the Hydro family, they would be among the 289,000 rural customers served by Hydro. And as rural customers, he said, they would pay the same rates as any other rural community. The Chairman pointed out that it was not until 1920 that service had been made available to rural Ontario; in 1945 there were 144,000 rural customers, and today there were 289,000. Particular credit for rushing this job through, he said, should go to H.R. Graham, Manager, and A.B. Hayman, Consumer Service Engineer, for Northeastern Region, with headquarters at North Bay. In concluding, Mr. Saunders expressed the hope that the advent of Hydro in Noelville had brought some measure of happiness, particularly at the Christmas season.

Located about 75 miles from North Bay near the mouth of the French River, this community is essentially a farming district and tourist centre. It is said that

(Continued on page 12)

DECEMBER 22 marked the beginning of a new era for Noelville when the villagers celebrated the coming of Hydro with a gala dinner. They all sampled the Christmas cake cut by Rev. J. M. Leclaire, Noelville Parish Priest, shown with Donat Monette, also of Noelville; Chairman Robert H. Saunders, H. R. Graham, North Bay, Manager of the Commission's Northeastern Region and William B. Harvey, M.P.P. for Nipissing District.



Lighting Of Tall Christmas Tree Marks
Advent Of Hydro In Northern Community
As Villagers Celebrate At Gala Dinner



NOELVILLE—Continued

IN THE GATHERING DARKNESS, this happy throng of Noelville townsfolk sang Christmas carols on the steps of the parish church while they waited expectantly to see the lights come on in their village. Boy Scout Honor Guard welcomed Chairman Saunders.







JOSEPH GUERIN, who has been Clerk of Martland Township, near Noelville, for the past 40 years, now can do his work by electric light instead of this flickering oil lamp.

BEFORE TURNING on lights, Chairman Saunders was presented with key to Noelville by Rev. Father Leclaire, parish priest.

JOYEUX NOEL for these Noelville district folk as they mark the advent of Hydro by buying a new washing machine. Georges Seguin, Vital Pilon, Freddie Clemnet and Regeanne Seguin proudly exhibit their purchase.



USTACHE ST. LOUIS and his wife, Lucille, look over their elec-ical appliances which they will be able to operate now at a uch lower cost. Before the coming of Hydro power, their elec-icity was supplied by fuel-operated generating equipment.

MRS. MARIEANNE D'AOUST and her daughters, Lorraine and Denise, switch on their new electric combination radio and record player.



NOELVILLE — Continued from p. 8

during the summer months an average of 35 to 50 thousand American tourists pass through this section each year. Hunting and fishing are reported to be particularly good in the vicinity.

17 Miles of Line Built

In order to serve the 87 applicants for Hydro service it was necessary to build 17 miles of 12,000 volt line south from St. Charles to Noelville, the power coming from Warren substation. Just before Noelville was hooked up, the nearby communities of St. Charles and Lavigne also received service. These, too, receive their power from Warren substation under the jurisdiction of the Crystal Falls Rural Operating Area.

★



BRAVING zero temperatures, Hydro line construction crews did a yeoman job of bringing power to Noelville in time for Christmas. Harold Gill, crew member, is shown at work.

Individual Installations Costly

While a limited number of people in Noelville had installed individual generating units in homes and stores to provide electrical service, the maintenance of this type of service was found to be exceedingly costly. Indeed, Eustache St. Louis, the village butcher, estimated that Hydro would save him about $2,000 a year while efficiently operating grinders, coolers, lighting and household appliances.

"The thing I like best about getting Hydro," one lady told *Hydro News,* "is that now I will be able to use a light-weight electric iron at any time instead of having to wait until I light the stove every time I have to do some ironing."

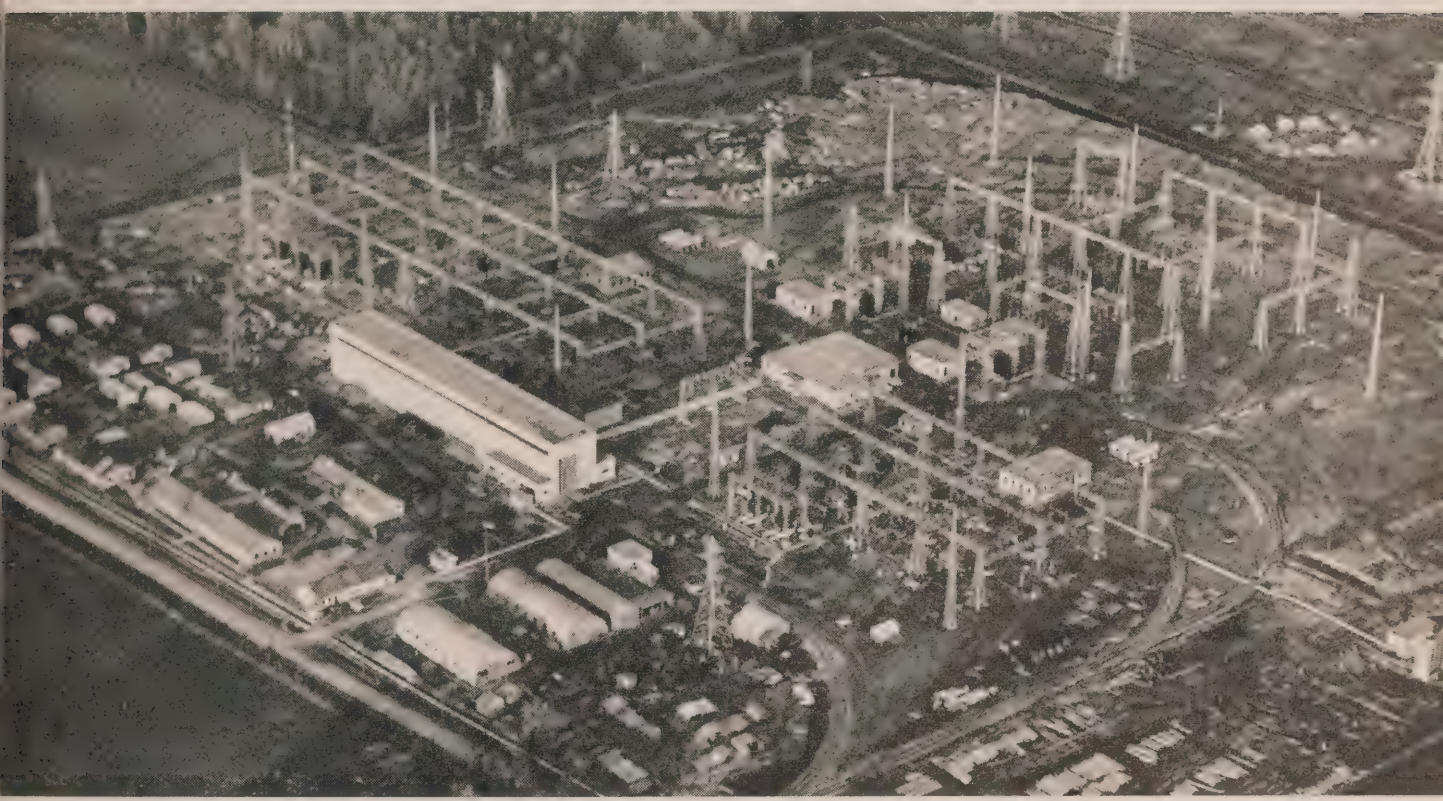
To sum it up briefly, the people of Noelville were very happy indeed this past Christmas with the coming of Hydro which, as one smiling resident said, was an assurance of a brighter New Year.

Incidentally, the name Noelville was not actually chosen for its Christmas tie-in, but comes from Noel Desmarais, the name of one of the early settlers, who did much to make the village the thriving community that it is today.



Significant Ceremony

Westminster Station Re-Named in Honor of E. V. Buchanan



RENAMED IN HONOR of E. V. Buchanan, General Manager, London P.U.C., the Commission's Westminster Frequency Changer and Transformer Station is permanent tribute to "a man who has done a tremendous job." Station functions as a tie between Hydro's 25 and 60-cycle power plants.

IN accordance with the practice recently adopted by the Commission of naming important Hydro projects after leading Canadian engineers or distinguished citizens who have made outstanding contributions to the electrical industry in the province, the Westminster Frequency Changer and Transformer Station has been re-named in honor of E. V. Buchanan, General Manager of the London Public Utilities Commission.

Officiating at the simple, but nonetheless significant re-naming ceremony in the station's main control room, Hydro Chairman Robert H. Saunders declared that it was "a tremendous plant named after a man who has done a tremendous job."

Also significant was the fact that the ceremony coincided with the first direct delivery of power on December 11 across 294 miles of single circuit transmission line to this transformer station from the Des Joachims Generating Station on the Ottawa River.

In the presence of municipal, provincial, federal and Hydro officials, Mr. Saunders paid tribute to engineers generally and Edward Buchanan specifically during the renaming. He said the tremendous task being accomplished by Hydro in providing the necessary load was being made possible by the work of engineers. "During my two and a half years with Ontario Hydro I have become acquainted with many of these men — engineers who have done a grand job with high sincerity," the Chairman stated.

"Ed Buchanan," he went on, "is one man who exemplifies Hydro. He represents engineers of a day when Sir Adam Beck was criticized for a dream which, it was said, would never come true and we are all grateful to Sir Adam for accepting such criticism and winning through to bring low-cost electric power to the Province of Ontario."

Mr. Saunders added that Ed. Buchanan, working with Sir Adam, assisted and strengthened him in overcoming the problems of that time.

The Chairman then asked the guest of honor to close the switch which would bring power directly from Des Joachims for the first time. Until this time the station had been fed power from the Ottawa Valley via the Kipling and Burlington stations.

As 230,000 volts surged across the newly-constructed high tension lines, Mr. Buchanan thanked the Chairman, stating that it was a tremendously happy day in his life. "I appreciate the honor for myself," he stated, "but accept it on behalf of my fellow engineers." He also went on to say that if he were to accept that honor it was only because he was the key man in the London P.U.C.

Elmo Curtis, Chairman of the London Public Utilities Commission, replied, saying that Mr. Buchanan was "far too modest in accepting the honor on behalf of the P.U.C."

Others who spoke briefly were Campbell Calder, M.L.A., for London; Alex. Jeffrey, M.P., for London; Mayor-Elect Allan J. Rush, and John Cleary, Reeve of Westminster Township.

Edward V. Buchanan, after whom the Westminster station has been named, has had a distinguished career as one of Canada's foremost electrical engineers.

Born in Scotland in 1887, he received his early education in his home town of Hamilton and in Glasgow. He graduated in electrical engineering from the Royal Technical College and spent two years with a British engineering firm before sailing for Canada in 1910. In Mr. Buchanan's own words, "I have never regretted that step."

Scottish Canadian

The first job in the Dominion for this Scottish Canadian was as consulting engineer to the newly-formed Hydro-Electric Power Commission of Ontario. In the same year — 1910 — he was transferred to London as resident engineer, and among his first accomplishments was the erection of the city's first power station. In 1911 he became electrical and waterworks engineer for the Public Utilities Commission and was appointed General Manager four years later.

Mr. Buchanan has held a number of executive positions in several engineering organizations and last year was elected President of the Association of Professional Engineers of Ontario.

The $12,000,000 station which now bears the name of E. V. Buchanan is strategically located in Hydro's Western Region, two miles south of London. At present it functions as a tie between the 25-cycle power generated at the Commission's Niagara plants and the 60-cycle power made available to Southern Ontario from

(Continued on page 19)



CEREMONY TOOK ON A DEFINITE SCOTTISH FLAVOR when guests were piped into luncheon by Hydro Lineman James Hamilton. Guests included, left to right, R. M. Laurie, Manager, Western Region; E. V. Buchanan; Elmo Curtis, Chairman, London P.U.C., A. R. Ford, London Free Press; Chairman Robert H. Saunders; Piper Hamilton, H. O. White, M.P. for Middlesex East.

E. V. BUCHANAN, watched by Hydro and civic officials at the renaming ceremony, flips a switch to bring power directly from Des Joachims.



HYDRO HOME FORUM



by
Edithemma Muir
Home Economist



Doughnut Time: To make tender doughnuts, you either require experience or a deep-fat thermometer. The fat in the saucepan should brown an inch cube of bread in 30 seconds or the thermometer should read 375 degrees. Fat, too hot, gives uncooked doughnuts, too cool, gives fat-soaked doughnuts.

On Shrove Tuesday: Watch the folks tip the pitcher of pure maple syrup over a stack of pancakes. We say pure maple syrup to remind you to read the label on the can or jar if you are buying it now.

Take a tip: To prepare garlic for salads and such, peel all the cloves in the garlic bulb at one time and put in a small jar of salad oil. Cover or cork the bottle tightly. In a week's time you may begin using a little garlic flavoured oil in salads and meat dishes — without peeling a bit every time you want to use it.

"Sage" idea! Add a spicy flavour to pork chops by rubbing each chop with a tiny bit of dry sage before pan braising.

Accent! Make potato salad with lemon juice by marinating minced onions in the juice of one lemon for an hour before mixing into the other ingredients. this gives a freshness to both potato and onion flavours.

In the know? All canned goods are marked with the contents in fluid ounces, so if the recipe calls for cupfuls and you are wondering if one can is enough, remember that there are eight fluid ounces in a cupful, and figure accordingly.

Suspicious? If you suspect that some of your canned goods have been frozen, don't worry. Freezing may soften fruit or vegetables but it will not harm the flavour or start spoilage. Examine the cans for pinholes however; if air finds its way into the contents, spoilage will take place.

Perk up the parsnip: For pattie-cakes mix 2 cups of mashed parsnips with a beaten egg, a tablespoon butter, 2 tablespoons cream, salt and pepper to taste and form into small flat cakes. Roll in fine cracker crumbs and pan fry in hot bacon fat until golden brown.

Turn the turnip into a delightfully surprising dish: Peel and dice an onion; cook with diced turnips. When tender, drain, season with salt, pepper, a teaspoon of sugar and a tablespoon of cream. Then mash and beat.

Raise the family's interest with a glaze on a dish of carrots: Steam or pressure-cook whole carrots until tender, then place in a well-buttered pan. Sprinkle on 1 tablespoon granulated sugar, and brown in the oven.

THREE DECKER JELLIED ENTREE

First Layer:

1 package strawberry jello,
2 cups boiling tomato juice,
½ teaspoon salt,
dash cayenne pepper,
1½ teaspoons grated onion.

Dissolve jello in hot tomato juice. Add other ingredients. Pour into greased casserole and chill until firm.

Second Layer:

½ lb. cottage cheese,
1 cup cleaned shrimps,
1 tsp. lemon juice,
2 tbsps. chopped nuts mayonnaise.

Combine all ingredients, adding enough mayonnaise to soften. Pat on an oiled cookie sheet. Turn over jelly.

Third Layer:

1 pkg. lemon jelly powder,
1¾ cups hot water,
3 tbsps. vinegar,
½ tsp. salt,
3 tbsps. minced celery.

Dissolve jelly powder in hot water. Add other ingredients. When partially cool, pour over cottage cheese. Chill until firm.

Save breakage! To avoid knocking figurines or knicknacks from shelves, it may be wise to stick a piece of scotch tape to the shelf, fold back part and place the base of the china on the tape.

Prevent shrinkage: It is advisable to remove that protective transparent cover from your new lamp shade. It has a shrinking nature and is inclined to bend the shade. We also believe the silk shades become sticky if the plastic is left on and a "Strong" bulb is used in the lamp.

"Boiled" dinner is a misnomer since the meat for the dish is not boiled, it is simmered. We buy flank, chuck, or neck and cut into 3-inch cubes and cover with half tomato juice and half water. Bring quickly to a boil then immediately reduce to simmer and cook until almost tender. Pop in whole potatoes, wedges of carrots, and parsnips and you'll find the vegetables take on a fine, rich flavor.

Next time you serve baked fish (and let it be soon) accompany it by mashed potatoes prepared in this way: Add some grated full-flavoured cheese, a little chopped crisp bacon, and if you like, some chopped pimento. Pile in a greased baking dish and brown in a moderate electric oven. Cabbage salad or grated carrot salad will round out a grand main course.

Golden warm cornmeal muffins with butter and syrup, or applesauce; can you think of anything the family would like better for an occasional dessert.

This is the time of year to remember Grandmother's Baked Rice Pudding — particularly if you have the oven heated anyway. The simple old recipe of ⅓ cup hard rice, ⅓ cup sugar, 3 cups milk, ⅓ teaspoon salt and ¾ teaspoon of pure vanilla can be varied. Chopped dates vie with raisins — a few will do, and do try some grated nutmeg with a little less vanilla, or serve with hot caramel sauce instead of cream.

NEW POWER for Auld Scotia

ALONG "Yon Bonnie Banks and Yon Bonnie Braes" and in many other parts of the Scottish Highlands and Islands, Scots are becoming increasingly conscious of the far-reaching impact on their way of life by the vitalizing magic of hydro-electric power.

Recently, when Her Majesty the Queen officially opened the Loch Sloy Hydro-Electric Scheme, she said: "Everyone will, I know, join me in expressing the warmest admiration of those whose vision, tenacity and technical skill have been welded together in facing and conquering so formidable a task. Their reward will be to see new strength surge into the very arteries of Scotland's being."

Herald New Era

To the 3,000 Scots who attended the ceremony on the banks of Loch Lomond, it symbolized the dawn of prosperity for many rugged and, as yet, undeveloped parts of Auld Scotia. The many hydro-electric projects planned by the North of Scotland Hydro-Electric Board, a relatively young body in the world of water power organizations, herald a new era of economic development in Scotland. In the words of the Board's Chairman, it represents "probably the last chance for the Highlands to survive as an economic entity."

Operating under the Hydro-Electric Development (Scotland) Act, 1943, through which it was constituted, the Board now has more than 100 separate construction schemes in various stages of planning. Of these, 19 developments involving 29 new generating stations are at present under construction.

Capacity of current projects is estimated at 630,000 kilowatts with an output of 1,600,000,000 kilowatthours annually. Total capacity of all proposed schemes is 1,041,750 kilowatts and the estimated output 3,017,500,000 kilowatthours.

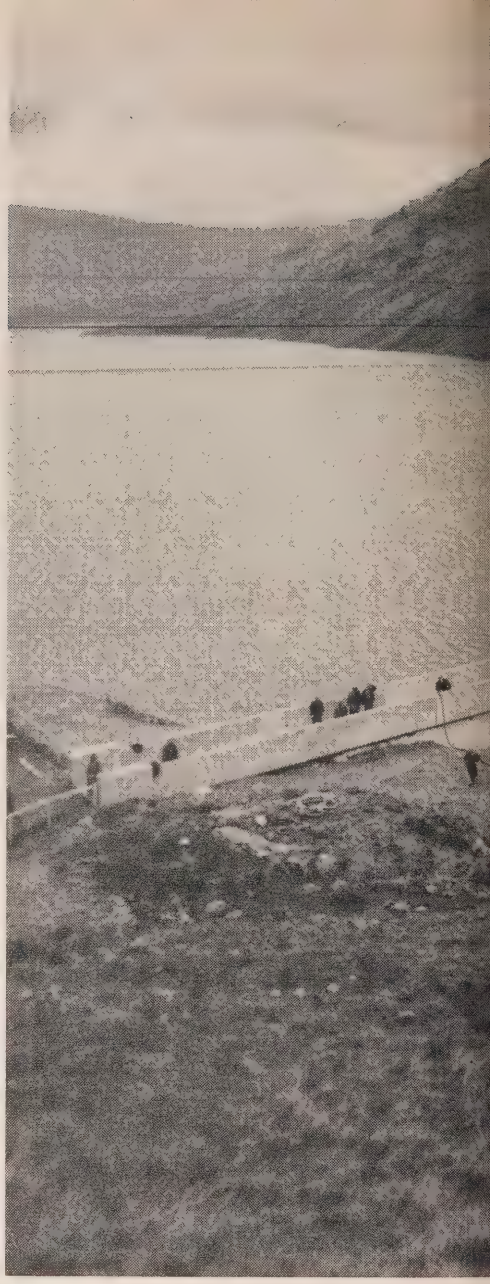
The Board's engineers, however, estimate that Highland lochs and rivers could produce at least 6,274,000,000 kilowatthours annually, a total about one-seventh the amount of electricity consumed in Great Britain.

Development of more power than it can at present absorb will play a vital part in the economic distribution of power in the Board's area. Much of the 21,750 square miles over which the Board has hydro-electric jurisdiction—an area north and west of a line from the Firth of Tay to the Firth of Clyde—is sparsely populated.

Although the Board's district represents three-quarters the total area of Scotland or nearly one-quarter that of Great Britain, it embraces only one-quarter of Scotland's total population or 2½ percent that of Great Britain.

Distribution of power into isolated crofts, farms and villages and in the islands along a rugged coastline indented by innumerable sea lochs is therefore

by
Shaun B. McQuillan
Hydro News



LOCH SLOY DAM, a mass bu



*

FROM ITS PICTURESQUE SETTING, the generating station looks out over Loch Lomond, across to Inversnaid, Inveruglas Island and the dominating peak of Ben Lomond.



re, was constructed under difficulties on a faulty mica-schist rock base requiring considerable excavation in some sections.

costly; and sale of surplus hydro-electricity to the British Electricity Authority is necessary to ensure economic electrification in the Board's area.

Improved Living Conditions

Already the Board's program has stimulated the economic life of the Highlanders, improved living conditions and has brought increased trade and employment to other parts of Scotland. Administrators also hope the depopulation trend that has been the bane of Scotland for many years will be erased entirely.

In 1949 generating stations in the Board's area produced 710,194,025 kilowatthours of which 511,158,750 were sold in the area, 56,241,200 were exported to the British Electricity Authority in Central Scotland, 27,000,000 were used in the construction of hydro-electric schemes and the balance of 115,794, 075 represents transmission and distribution losses.

When the current projects are completed there will be, in addition to the 29 new generating stations, about 30 dams and weirs, 136 miles of new or reconstructed roads, new bridges and new hamlets. Fourteen new lochs will be formed and 13 others enlarged.

The Loch Sloy project is the first of the Board's ambitious schemes. Power from the 130,000 kilowatt-capacity generating station is flowing to industrial areas of the Clyde and Central Scotland. Operation is confined to 5½ days a week with an annual output of 130,000,000 kilowatthours.

A high head development, the main works of Loch Sloy are in the County of Dunbarton, but the catchment area with its extensive eight-mile system of diversion tunnels and aqueducts, cut to trap highland streams, stretches into the neighboring counties of Argyll and Perth. The main tunnel, through Ben Vorlich, is 10,000 feet long.

Loch Sloy, set in a jumbled mass of rock and mountains where once the

North Of Scotland Hydro-Electric Schemes Herald New Era Of Economic Development



SCOTTISH-BORN QUEEN ELIZABETH pauses at the main entrance of the Loch Sloy Scheme Generating Station after official opening. Four penstocks in background convey water from Loch Sloy.

* * *

LOCH FASKALLY, new loch in Perthshire created by Pitlochry dam of Tummel-Garry scheme, largest of the Scottish Board's projects, designed to produce 300,000,000 kwhrs. annually.

kingdoms of the warring Scots, Picts, and the Britons of Strathclyde were bounded, has many features of interest to surveying hydro-electric engineers.

1. Average rainfall in the area is estimated at 115-120 inches yearly.

2. High-level storage facilities are possible mainly through the surrounding peaks of Ben Vorlich (3,092 feet) and Ben Vane (3,004 feet).

3. Streams readily diverted for storage.

4. A rocky gorge suitable for a dam site.

5. Suitable level ground on the nearby banks of Loch Lomond to erect a generating station.

6. No fishery problem, an unusual situation in Scotland.

7. Nearby industries to absorb the power.

The 1,160-foot-long mass buttress-type dam raised the loch level by 155 feet and increased its area from 6½ square miles to 32 square miles. It now has 1,200,000,000 cubic feet of storage space or a potential 20,000,000 kilowatthours. The dam is 160 feet high.

Head of 910 Feet

Four pipelines, operated by four seven-foot diameter disc valves, cover the 1,500 feet from the reservoir to the generating station, and at a head of 910 feet the pipes must withstand a pressure of nearly 400 pounds a square inch.

Generating equipment comprises four vertical shaft water Francis-type turbines

(Continued on page 25)



SIGNIFICANT CEREMONY

(Continued from page 14)

new developments on the Ottawa River. The station also acts as a key station for the frequency standardization program now underway.

Since the 480,000-horsepower Des Joachims Generating Station was placed in initial operation last June, 60-cycle power has been routed to Westminster via Kipling and Burlington.

From December 11, when the direct line was completed, additional power has been received via Minden Switching Station.

The E. V. Buchanan Transformer Station has a capacity of 200,000 kva, with associated frequency-changer units totalling 100,000 kva. As the demand for 60-cycle power increases with the progress of the standardization program, it is ultimately planned to increase the transformer capacity to 400,000 kva.

Luncheon Proceedings

A luncheon attended by 45 guests in honor of E. V. Buchanan and presided over by R. M. Laurie, Manager, Western Region, completed the re-naming ceremonies. Lending color to the proceedings and bringing a touch of Scotland into the Hotel London, Piper James Hamilton, a Hydro rural lineman, formerly with London P.U.C., in full ceremonial dress, piped head table guests into the dining room.

During the Luncheon Mr. Laurie complimented the guest of honor by explaining that there was no place in London large enough to hold all of Mr. Buchanan's friends and that a compromise had been made by inviting a cross-section of the people of the City. Such guests included H.E.P.C., London Utility, civic, and parliamentary officials.

A large golden key, representing the "Freedom" of the Station, was later presented to E. V. Buchanan and in thanking Chairman Robert H. Saunders and the Ontario Hydro he stated that the honor was shared with members of his own Commission, upon whom he depended for support.

Mr. Buchanan concluded by quoting the immortal words of Rudyard Kipling which, he thought, symbolized the work of the engineer:

Raise ye the stone or cleave the wood
to make a path more fair or flat:
Lo, it is black already with blood
some Son of Martha spilled for that:
Not as a ladder from earth to Heaven,
not as a witness to any creed,
But simple service simply given
to his own kind in their common need.

Toronto Consulting Engineer Heads Ontario Association

W. H. M. (Monty) Laughlin, Toronto consulting engineer, has been elected president of Ontario's 12,000 member Association of Professional Engineers, Canada's largest provincial engineering group, representing more than 50 percent of the nation's professional engineers. Laughlin succeeds E. V. Buchanan, General Manager, London Public Utilities Commission.



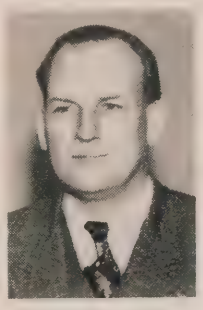
J. R. Montague

A member of the firm of Proctor, Redfern and Laughlin, the association president will head a 19-man executive council to which he was first elected four years ago. An honor graduate in civil engineering at the University of Toronto in 1927, Laughlin won several scholastic honors including the British Association Medal for the advancement of science and the professional degree of Civil Engineering.



W. H. M. (Monty) Laughlin

Other officers are: 1st Vice-President, O. D. Johnston, Toronto; 2nd Vice-President, J. Herbert Smith, Toronto, Civil branch; J. L. Lang, Sault Ste Marie; R. C. McMordie, Building Engineer, Ontario Hydro and W. L. Sagar, both of Toronto. Chemical and Metallurgical branch: C. K. Fraser, Peterborough; R. M. P. Hamilton, Toronto; D. S. Simmons, Sarnia. Electrical branch: A. M. Doyle, and A. W. Murdock, Assistant Manager of Personnel, Ontario Hydro, both of Toronto; O. W. Titus, Leaside. Mechanical and industrial branch: G. Ross Lord, and J. R. Montague, Director of Engineering, Ontario Hydro, both of Toronto; L. C. Sentance, Hamilton. Mining branch: J. W. Baker, Virginiatown; A. E. Cave, Geraldton; M. W. Hotchkin, Kirkland Lake. Col. T. M. Medland is executive director and Colonel J. M. Muir, both of Toronto, is secretary and registrar.



R. C. McMordie



A. W. Murdock

Form Eastern Metermen's Association

AN Eastern Ontario Metermen's Association was formed recently to include the municipalities in the eastern part of the Province. It was felt that, as the other four metermen's associations in the central and western part of the Southern Ontario System had proved beneficial to the members, a similar organization should be functioning in Eastern Ontario.

An organization meeting was held at Brockville and the guest speaker at the luncheon was Mayor W. F. Reynolds. During the afternoon session, a paper on "Thermal Demand Meters," was given by Douglas Bruce of Toronto.

Officers elected are as follows: President, E.A.C. Symons, Kingston; Vice-President, R.V. Devaul, Brockville; Secretary-Treasurer, D.F. Every, Napanee; Committee: C.E. Maguire, Ottawa; C.L. Labelle, Smiths Falls; G.M. Saunders, Carleton Place; N.C. Williams, Cobden.



Water Authority, A. V. White Dies

ARTHUR VEITCH WHITE, aged 79, formerly Consulting Engineer with the H.E.P.C., died recently at his home in Toronto.

Mr. White was one of Canada's best known consulting engineers and was considered an authority on questions connected with international waters. He had represented the Federal Government on such matters as the St. Lawrence Seaway, the Chicago Drainage Canal, Niagara Power development, export of electricity, and the power resources of the Provinces of Nova Scotia, New Brunswick, Ontario and British Columbia.

Born in Woodstock in 1871, Mr. White received his education in schools there and at the University of Toronto. He also spent five years as engineering expert with Brown Bros. in London, England. During that period he executed important commissions on the continent and in the United States.

On the special invitation of the late Sir Adam Beck, Mr. White joined the staff of the Commission as consulting engineer to the executive, which post he held from 1921 until his retirement in 1934.

He is survived by his widow, the former Aidine Squire, a daughter and two sons.

WELLAND HYDRO OFFICES TO GET "FACE-LIFTING"

An expenditure of $18,000 for additions and alterations to Welland Hydro-Electric Commission's office building has been approved. The projected improvements are designed to provide necessary office space and proper facilities for customers.

UPWARD TREND IN WINDSOR POWER CONSUMPTION

Sharp increases in power consumption were indicated in a report submitted by General Manager J. Clark Keith covering operations of the Windsor Utilities Commission in the first nine months of 1950.

The comparative report showed that domestic loads were up 20.6 percent over 1949; the commercial power load was 14.2 percent higher while the industrial power load had increased by 9.6 percent.

S. W. Canniff Retiring at Ottawa

RETIREMENT next summer of S. W. Canniff, General Manager of the Ottawa Hydro-Electric Commission, was recently announced by F. H. Plant, Chairman of the Ottawa Commission.



S. W. CANNIFF

Mr. Canniff joined the Ottawa staff more than 35 years ago as a Substation and Testing Engineer. In 1930 he became Assistant General Manager, and in 1937 he was appointed General Manager, which post he has held ever since.

Mr. Canniff was born and educated in Napanee, Ontario. Following school graduation, he took a four-year course with the Canadian General Electric Company, and remained with the company for another three years.

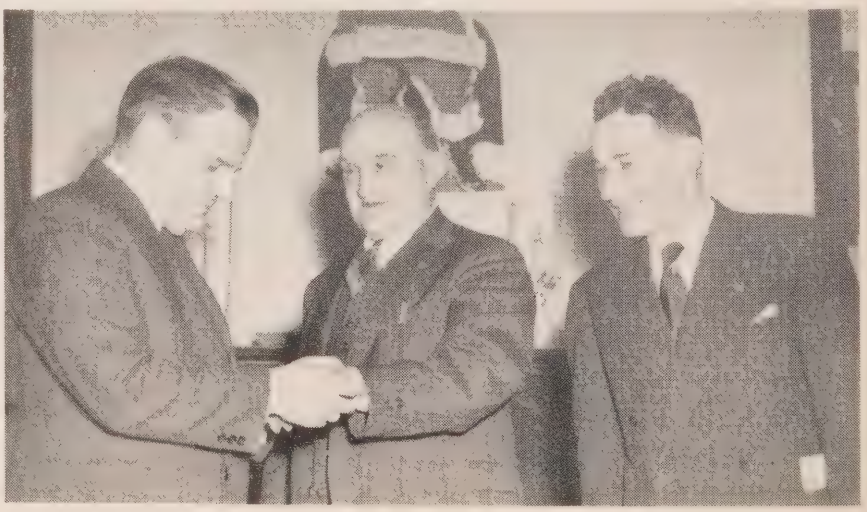
He is an ardent curler and fisherman.

It is interesting to note, also, that Mr. Canniff's forebears were United Empire Loyalists, who settled at Cannifton, near Belleville.

He is to be succeeded by George R. Davis, who became identified with the Ottawa Hydro in 1937 as Superintendent of Substations, and in October, 1949 was appointed Assistant General Manager.

Born at Smiths Falls in 1903, he attended Primary and Secondary schools there. In 1927 he graduated from Queen's University as a Bachelor of Science in Electrical Engineering. Following graduation he became associated with Ontario Hydro as Meter and Relay Engineer, and later served as Supervisor-Engineer for the Eastern System with headquarters at Belleville. In 1937 he joined the Ottawa Commission.

Mr. Davis is a member of the Engineering Institute of Canada, being on the Management Committee of the Ottawa branch. He is also a member of the American Institute of Electrical Engineers, the Professional Engineers of Ontario, and the Canadian Club.



CLIMAXING a long and notable civic career, J. R. Pattison, who retired as Chairman of Fort William Hydro-Electric Commission at the end of 1950, was honored recently when he was presented with a handsome wrist watch by Chairman Robert H. Saunders on behalf of the Fort William Commission. The presentation was made during the annual Christmas party of the Fort William Hydro Social Club. Mayor Hubert Badanai, right, looks on as Mr. Saunders presents the watch to the veteran Commissioner who has a record of 26 years' service to the Lakehead city, 17 of them as a member of the local Hydro Commission. Born in England, he came to Canada in 1907 when he joined the C.P.R. serving for 40 years as carpenter in the locomotive department.

IN OFFICE 20 YEARS



CYRUS FLOMMERFELT

Chairman of the Chippawa Hydro-Electric Commission was re-elected to that body by acclamation this year. This was his 20th consecutive acclamation. He will serve for the next two years.

SEAFORTH COMMISSION TO BUILD SUBSTATION

Seaforth Public Utilities Commission has been granted permission to spend $56,700 to cover the cost of building a new 3,000 kva substation, additions and alterations to the distribution system and for frequency standardization.

At the same time, the Corporation of the Town of Seaforth has been authorized to issue debentures totalling $40,000 to cover part of the expenditure, the balance to be met out of available funds of the local commission.

LINN RETURNED FOR 25TH YEAR

An outstanding record of public service has been established by John Fleming Linn, who has been returned for his 25th consecutive year as Commissioner with the Stayner Hydro-Electric Commission. He is also Secretary of the Commission.

Mr. Linn was born at Cumnock, Ontario, and attended school there. From 1920 to 1923 he was a member of the Stayner Public School Board.

He is interested in all forms of sport and is particularly active in lawn bowling and choral work, and is Director of Music in the Stayner branch of the Canadian Club. He is also a member of the Stayner Lawn Bowling Club.

Annual O.M.E.A.—A.M.E.U. Conventions

OVER 1,000 delegates are expected to register at the forthcoming annual conventions of the Ontario Municipal Electric Association and of the Association of Municipal Electrical Utilities at the Royal York Hotel in Toronto on February 26, 27 and 28. Said to be one of the oldest conventions in Canada, this marks the 42nd joint meeting of these organizations.

Several District O.M.E.A. groups are also planning meetings before the annual convention. District No. 8 will meet at Windsor on January 26 while District No. 4 will hold its sessions at the King Edward Hotel, Toronto, on January 31.

STREET-LIGHTING SYSTEM FOR HYDE PARK DISTRICT

Hyde Park, London Township, has been granted approval to install a street-lighting system at an estimated cost of approximately $1,500. Cost of the project will be borne by the Corporation of the Township of London. The system will comprise twenty-two 100-watt Radial Wave type street-lighting units with automatic control.

STREET-LIGHTING SYSTEM FOR CENTREVILLE VILLAGE

Hydro has given approval for the proposed installation of a street-lighting system in the Village of Centreville, Camden East Township. Estimated cost of the project—approximately $490—will be provided by the provincial commission.

The system will comprise four 100-watt Radial Wave type street lighting units with automatic control.

POWER RESTORED "IN A JIFFY"

The story is told about a fast repair job done by the Riverside Public Utilities Commission. It seems that late one afternoon this winter a resident, Harley Miller, found he was without electricity at his home. He called the local commission and within a few minutes Repairmen Laforest and Bays were at the door with their truck. They found a wire next door was down. Within a very few minutes the repairs were made and service was restored.

Mr. Miller wanted to go on record as saying that "Riverside Hydro repair crews get there quick and restore the power in a jiffy."

HONOR STRATHROY HYDRO SUPERINTENDENT



IN RECOGNITION of his untiring efforts and valuable technical advice in connection with the building of a Lions Club swimming pool, Alan E. Ditchburn, Superintendent and Secretary-Treasurer of Strathroy P.U.C., has the unique honor of being the first life member of Lions International. The presentation of the life membership was made to Mr. Ditchburn on behalf of the Strathroy Club by International President H. C. Petry at a recent club gathering in London as a token of the local club's appreciation of Mr. Ditchburn's services. Shown following the presentation, left to right, Thomas Kersey, Strathroy Lions Club President; Mr. Ditchburn, E. Houghton, Canadian President of Lions International and D. Geddes, Strathroy Club Secretary.

CHANGEOVER CHORE

Hydro's Standardization Crews Moving Into Rural Sections of Ontario to Change Over 310,000 Items of Frequency Sensitive Equipment on 62,000 Individual Farms

by

C. G. W. MacIntosh
Hydro News

HYDRO'S Frequency Standardization program is reaching into the rural sections of Southern Ontario where an estimated 310,000 items of frequency-sensitive equipment on approximately 62,000 individual farms are scheduled to be changed over from 25 to 60-cycle operation.

Since the inception of the program a little over a year ago to date, some 25,000 pieces of equipment on about 6,000 farms have been altered for use on the new cycle.

This tremendous undertaking in the rural areas has brought into sharp focus the increasingly important role of Hydro in relation to agricultural production, and points up the fact that many farms are comparable to small industries.

It has been found that farmers generally are co-operating closely with the Hydro technicians and that they welcome standardization which brings them into step with farmers in other parts of the province and in adjacent U.S. states in enjoying the benefits of 60-cycle power and of new 60-cycle equipment.

Initial step in the program to change 25-cycle frequency sensitive electrical equipment on farms for 60-cycle operation is taken when Hydro's technicians call on farmers to make an inventory of all equipment and appliances in the barn and the farmhouse. Every item is listed and given a code number so that the necessary motors and parts can be ordered from the manufacturers well in advance of the scheduled time to make the required alterations.

The inventory usually precedes the actual changeover by about four or five months. Any equipment added after this inventory has been taken, poses a difficult problem for Hydro technicians in effecting a satisfactory changeover for the customer on "C-Day." Such added items should be reported, as soon as they are obtained, to the nearest Hydro Frequency Standardization Division Area Office, so that parts can be ordered for the necessary alterations, otherwise the newly-added equipment may be out of service for some time when the switch to 60 cycles is made.

Advance notice is given to rural customers advising of the date that the changeover is planned. This notice is repeated two days prior to "Cutover Day."

On "C-Day," mobile teams of Hydro technicians in trucks visit the farms and follow a pre-determined engineering plan, according to the feeder lines and transformers which supply the power to the rural customers.

"Operation Changeover" on the farm involves varying degrees of work, depending on the type of farming being done and the extent to which electricity is being used.

On dairy farms, for example, there are usually the milking machine motors to be replaced and pulleys to be changed; milk cooler motors to be replaced, pulleys altered and fans made smaller. Where there are oat rollers, motors must be switched and pulleys changed. And if there is a barn cleaner, the motor is exchanged for a 60-cycle model and gears or sprockets are altered.

Some farms have the new hay curer and motors for this must be replaced and the pulleys altered. On those farms where grain is grown extensively, and where grain blowers have been installed in the barns the motors and pulleys have to be adjusted.

If there are ventilator fans in the barn, these need motor changes and the adapt-

(Continued on page 24)





"BOSSY" CASTS A WARY EYE at the photographer, momentarily forgetting her interest in the activities of Technician Frank Philips who has invaded her stall to change over one of the ventilators in the barn. The alteration for 60-cycle operation involves a new motor and blade changes.

ing of the rotor of the fans, while changes have to be made in the motors and impellers of sump pumps. So far as the water pumping system is concerned, the motor is replaced and gear changes are made.

Inside the farm house where electricity has helped to lighten the work of the farmer's wife, such appliances as electric refrigerators, washing machines, electric ironers, record players, fans and clocks must be altered for operation on the new cycle.

Hydro technicians making these changes report that the co-operation they have been receiving from farmers and their wives has been most helpful. If the milking machine, for example, has not been altered by the time the milking is regularly done, the farmer and his help usually get organized and proceed to carry out this job in the old-fashioned manner.

Consumer Co-operation

Technicians have developed a real respect for farmers who generally have some knowledge of mechanical and electrical work and are able to appreciate some of the problems involved in the changeover. This fact, the technicians maintain, seems to indicate why farmers are so willing to co-operate by improvising whenever this is necessary while the changeover job is in progress.

This work, it is anticipated, will continue for about ten years more, and during that time the advantages of 60-cycle power will be brought to all these important users of Hydro — the rural customers who produce most of the food that is consumed in this province.

"C-Day" Scenes



ABOVE — Technicians John and Fred Plante are working on a milk cooler. The 25-cycle motors are exchanged for 60-cycle models. In addition, pulleys are altered and the fan made smaller.

★ ★ ★

BELOW — This Hydro technician is making the necessary changes in the farm's water system. This usually necessitates exchanging the motor for 60-cycle model as well as pump alterations.



NEW POWER

(Continued from page 18)

designed to produce a maximum 46,000 horsepower on a head of 860 feet. Each is coupled to a 34,375 kva (32,500-kilowatt), 11,000-volt alternator revolving at 428 revolutions a minute. The alternators are connected to four 11/132 kilovolt main step-up transformers, each rated at 35,000 kva with forced oil circulation and tailrace water cooling.

In his address at the Loch Sloy opening ceremony, Rt. Hon. Thomas Johnston, Chairman of the North of Scotland Hydro-Electric Board, said a united Scotland "faces with courage and optimism" a struggle "to harness part of the abundant water resources of the Highlands so that from them may pour and multiply the amenities of life and the productive forces of our land."

Classified Ads

FOR SALE

New Pumping Units

(1) 10 H.P. Motor (Electric Tamper) 550 Volt, 25 Cycle, 3 Phase, 1445 R.P.M. Ingersoll Rand Pump 1445 R.P.M., 57.75 Ft. Head, 600 I.G.P.M.

(2) 5 H.P. Century Electric Motor, 550 Volt, 25 Cycle, 3 Phase, 1440 R.P.M. Wallace and Tiernan High Pressure Pump, 1440 R.F.M.

Used Pumping Units

10 H.P. U.S. Motor, 550 Volt, 3 Phase, 25 Cycle, 1500 R.P.M.

Layne & Bowler Deep Well Pump, 100 I.G.P.M., 160 Ft. Head, 20 Ft. discharge column, 6 stage.

10 H.P. U.S. Motor, 550 Volt, 25 Cycle, 3 Phase, 1500 R.P.M.

Layne & Bowler Deep Well Pump, 100 I.G.P.M., 160 Ft. Head, 70 Ft. discharge column, 10 stage.

15 H.P. Crocker Wheeler Motor, 550 Volt, 25 Cycle, 3 Phase, 1500 R.P.M.

Smart Turner Pump, 1500 R.P.M., 38 Ft. Head, 870 I.G.P.M.

Aeration Units (2) including piping and controls, 7½ H.P. C.G.E. Motor, 550 Volt, 3 Phase, 25 Cycle, 1450 R.P.M.

Single Stage low pressure compressor 3-6 Cu. Ft. Per Min.

Electric Motor

20 H.P. English Electric, 550 Volt, 25 Cycle, 3 Phase, 1450 R.P.M.

Please direct inquiries to:
Weston Public Utilities Commission
131 Main Street North
Weston, Ontario

F.S.D. NEWS

Monthly Report On Progress Of Standardization Program

ON SCHEDULE

COMPLETING some 15 months of major scale operation, Hydro's Frequency Standardization program is maintaining its schedule. Already more than 90,384 customers of all classes have had 348,175 appliances and other pieces of frequency-sensitive equipment changed over for operation on 60-cycle power. The program, as a whole, will involve the changeover of some 3,825,000 pieces of electrical equipment for approximately 800,000 industrial, commercial and domestic customers.

PERSONNEL CHANGES

Recent personnel changes within the Frequency Standardization Division include the appointment of G.E. Whitaker as Project Manager in Area "D" which covers the Stratford-Seaforth-Goderich district. Mr. Whitaker was formerly Project Manager for Area "A," the area north and east of Toronto where standardization operations were first undertaken on a major scale in May, 1949 Before his transfer to the Frequency Standardization Division, Mr. Whitaker was the Commission's Chief Clerk at Simcoe for 10 years. He was also R.O.A Manager at Brockville for 10 years . . . Succeeding Mr. Whitaker in Area "A," is W. Donald Mackenzie, former Project Manager for Area "B," the Sarnia area, where standardization work is now nearing completion. For the remainder of the program in the Sarnia rural sections, J.L.G. Beatty, Assistant Area Project Manager will be acting manager.

AREA NEWS

In Area "A," some 550 customers of all classes served by the Markham Hydro-Electric System received initial deliveries of 60-cycle power early in January when Hydro's changeover program got underway in that municipality. Frequency standardization in Markham involved the altering of appliances and equipment of approximately 435 domestic, 100 commercial and 15 industrial customers with a total load of about 560 kilowatts . . . . In Area "B". the village of Alvinston in Lambton County was the first community to receive 60-cycle power this year when the 310 customers served by Alvinston P.U.C. had their power supply changed over to 60 cycles on January 3-4 . . . . . Standardization operations were also carried out at Arkona on January 9-10 when the 176 customers of Arkona Hydro-Electric Commission were "changed over" to the new cycle . . . . First "cutovers" to 60 cycles for the customers served by Forest Public Utilities Commission were scheduled for January 22 and work is expected to be completed in about two weeks. An area sub office was established in Forest at the beginning of January while a clock and fan depot was opened on January 15 . . . . St. Mary's will have the distinction of being the first municipality in Area "D" to be switched over from 25 to 60 cycle power supply. The program is scheduled to start there about the third week in February this year with the estimated 1,450 customers of all classes served by St. Marys Public Utilities Commission being changed over to the higher cycle in a series of 10 "cuts". It is expected that the work will be completed in about three weeks . . . . An area sub-office was opened recently in Strathroy to coincide with the inventory of domestic customers in that town. Actual "cutovers" for Strathroy are scheduled to take place early in April this year.

60-CYCLE STATIONS

Within the next few months, 60-cycle power will be made available to the Greater Toronto area through the Commission's transformer stations at Strachan Avenue, Wiltshire, Leaside and Fairbanks. This will make it possible to use 60-cycle equipment in any new plant or factory addition that may be built in these sections if the necessary secondary distribution facilities can be provided by the municipal systems. It is expected that 10,000 kilowatts at 60 cycles will be available from Wiltshire T.S. in July, and an additional 10,000 k.w. in December. Another 40,000 k.w. will be supplied from Strachan Ave. T.S., approximately 45,000 k.w. from Fairbanks T.S., and about 20,000 k.w. from a temporary station at Leaside T.S. early in the fall of 1951. This 60-cycle power will be transmitted from Hydro's new generating stations on the Ottawa River over high-tension lines to Hydro's big Kipling and Scarborough Transformer Stations.

Photo-news



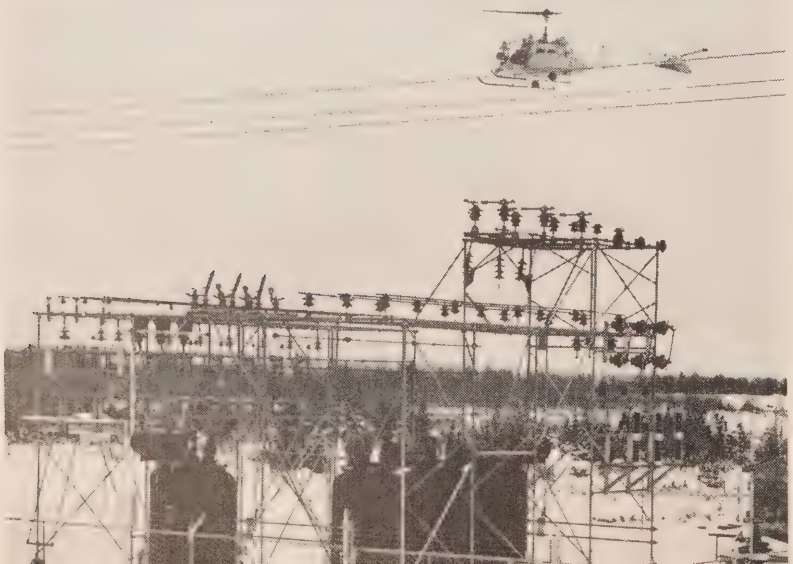
Presentation to Adam Beck School

EXPRESSING the hope that it would serve as a reminder of the debt owed by everyone to the "Father of Hydro," Chairman Robert H. Saunders recently presented a portrait of the late Sir Adam Beck to the Home And School Association of the Beck School on Scarborough Road. Addressing an audience of parents and students at the school, Mr. Saunders lauded the efforts of the man who, Mr. Saunders stated, "was instrumental in the creation of an organization which has brought benefit — through an abundance of low-cost power — to the entire province." Holding little Margaret Moore up for a closer look at the portrait, Mr. Saunders is pictured above with, left to right, Mrs. Harold Howells, Home And School Association Secretary; M. McCordic, School Principal; Mrs. P. Mertens, President of the Home And School Association, and Loftus H. Reid, Toronto Hydro Chairman.

C.E.M.A. Social Evening

WALTER Black, C.G.E., points a waggish finger at Rod Weese, of Hydro's Frequency Standardization Division, during a social evening at the Brant Inn, Burlington. Arranged by Household Refrigeration Section of the Canadian Electrical Manufacturers Association, the event attracted about 140 members of electrical industries connected with Hydro's Frequency Standardization program. Left to right: J. C. (Carl) Igmundson, Ontario Hydro; Rod Weese; Bob Mitchell, Westinghouse; W. E. Jamieson, Canadian Comstock; Harry Walls and Walter Black, C.G.E.; and A. Dembiskey, Ontario Hydro.

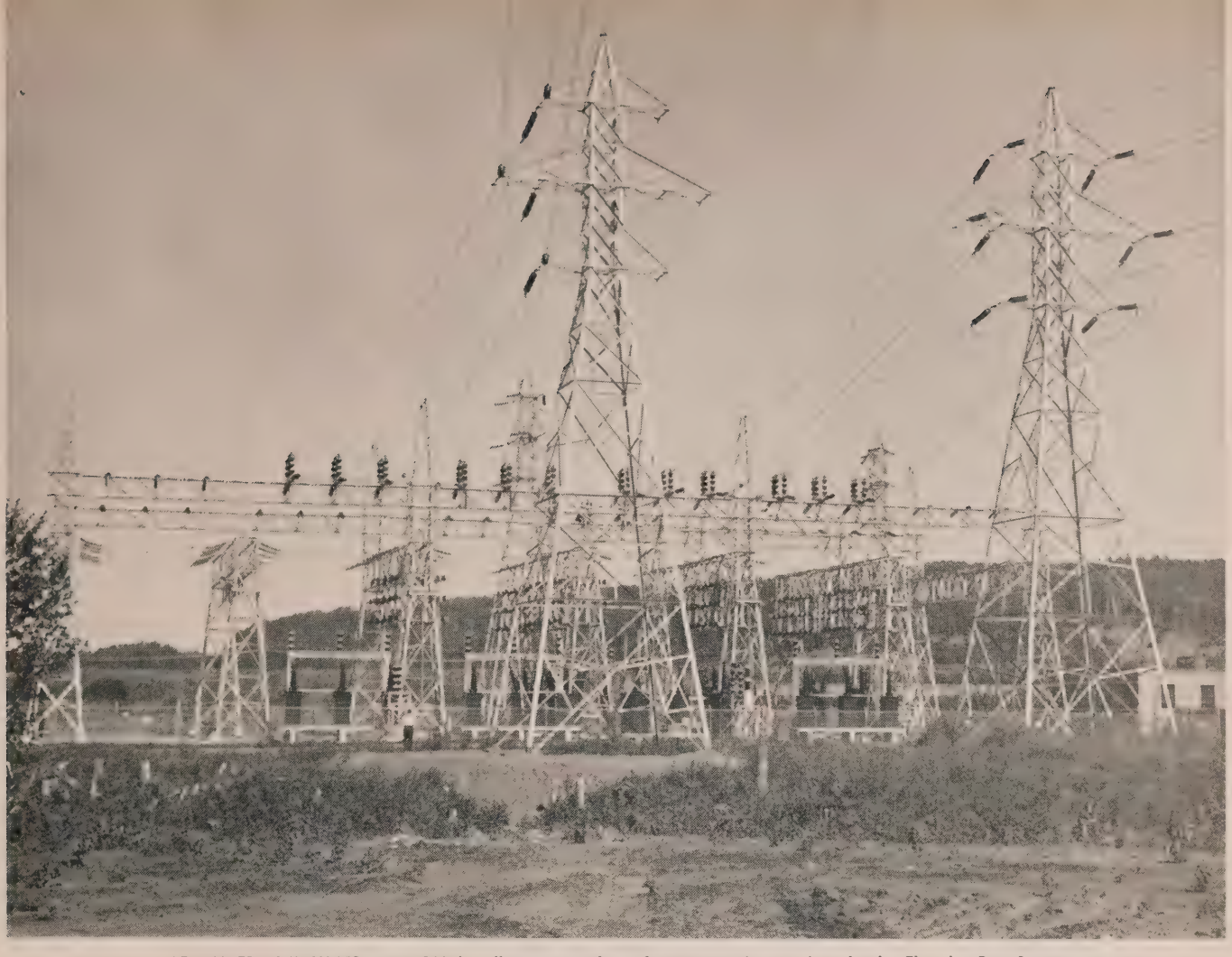




Airborne Patrol

HYDRO'S first aerial inspection of transmission lines serving Manitoulin Island. The helicopter, one of three in constant service, is caught by the camera as it hovers above the new substation at Little Current. Flying a few feet above the lines to scan them for possible faults, Pilot Smith Pruner and Observer-Inspector Charles Sword were on their way back from an inspection trip which took them from their base in Toronto to Hydro's Abitibi Canyon Generating Station. The trip also involved inspection of the new 115-kv transmission line from George W. Rayner Generating Station on the Mississagi River.

(Photo courtesy Manitoulin Expositor)



ALEXANDER SWITCHING STATION handles power from four generating stations in the Thunder Bay System.

NORTHERN POWER POOL

Alexander Switching Station Integrates Power From Four Northern Ontario Plants

POWER pools on the Hydro systems are created by the building-up of a network of interconnecting facilities which enables electricity, produced often at widely-separated generating sources, to be transmitted from one district to another as required. Every generating station in a system is a contributing unit to the power pool. When a customer flips a switch, it is impossible for him to tell which generating station supplied the power to light his lamps or turn his motors.

In spite of a difference in frequencies, pending the completion of the standardization program at 60 cycles, Southern Ontario, with frequency changer stations at Scarborough and Westminster, enjoys what is practically a pooled service. And Southern Ontario regarded as a Hydro system includes all the territory popularly known as Old Ontario — from the Quebec boundary to the Detroit River and north to Lake Nipissing. The Commission is now busy in the Thunder Bay System and the Northern Ontario Properties, extending, consolidating and perfecting the facilities which provide for an interchange of power loads between districts separated, in some cases, by hundreds of miles.

Role Of Switching Stations

Switching stations play an important part in all grid systems. Every generating station is provided with switching installations, marshalling the power conveyed from the bus bars in the generating room and transferring it to the transmission lines. But switching stations located independently at strategic points in a system have a much more extensive field of usefulness because they function with respect to the power delivered, not by one, but by several generating stations. In addition, they reduce to a minimum the system disturbance under fault conditions. This they accomplish by transferring power, usually by automatic devices, to sound alternative circuits so that a faulted circuit can be cut off and cleared of trouble with little, if any, inconvenience to Hydro customers.

The bringing into service of the 53,000-horsepower Aguasabon Generating Station, located on the north shore of Lake Superior just east of Schreiber, and the completion of the 160,000-horsepower Pine Portage Generating Station on the Nipigon River, with its initial installed

by
Harry M. Blake
Hydro News



CIRCUITS FROM HYDRO transmission lines are connected with the Switching Station by tap structures equipped with cigar-shaped current transformers designed to function "al Perfecto."

* * *

DISCUSSING POWER supply problems and rural extensions in Hydro's Northwestern Region are (l. to r.) Archie Thompson, Personnel; Eric R. Martyn, Consumer Service Engineer; D. I. Nattress, Regional Manager; E. E. Charters, Regional Accountant, and J. W. Looney, Operations Engineer.



capacity of 80,000 horsepower, has enabled the Comission to further develop its power pool service in the Thunder Bay System and to extend its effective range far into the outlying districts to the northwest.

Alexander Switching Station

In order to ensure the smoothest possible working of this northern power pool, a major switching station has been erected in the near vicinity of the Alexander Generating Station, situated on the Nipigon River, about one and one-half miles below Cameron Falls from which it is operated by remote control. Alexander has a capacity of 74,000 horsepower and is one of five Hydro generating stations in the Thunder Bay System which have a total installed capacity of 318,000 horsepower.

Towards the end of last summer, when the new 115,000-volt transmission line from Pine Portage to Fort William, now in service, was nearing completion, *Hydro News* visited the Alexander Switching Station. This impressive-looking structure welcomes in mechanical embrace power lines originating at four



generating stations — Pine Portage, Cameron Falls, Alexander and Aguasabon. It re-routes the currents when faulted circuits occur, and, if one may be permitted to appropriate a word from the vernacular of currents, sends them on their way "rejuicing," to power distribution centres at Port Arthur and Fort William at the Lakehead and to Geraldton where services fan out to the Long Lake mining area.

From Port Arthur a 115,000-volt transmission line carries power concentrated at the Alexander Switching Station to Hydro's new 30,000 kva. transformer station at Moose Lake, which is supplying greatly improved services to the Steep Rock Iron Mine and other customers in the Atikokan district. When the extension of the line from Moose Lake to Dryden is completed next May, Hydro power generated by stations on the Nipigon river will be tied in with the circuits from the Ear Falls Generating Station on the English river, where it will be an increasingly important factor in both industrial and rural development.





RUNNING PARALLEL for many miles, these 115,000-volt lines separate a few miles south of Alexander. The lines on the left carry on to Port Arthur. On the right is the new line running from Pine Portage Generating Station to Fort William.

LOCATED ON the Nipigon River below Cameron Falls from which it is operated by remote control, Alexander Generating Station has a capacity of 74,000 horsepower. It is one of five Hydro generating stations in the Thunder Bay System with a combined installed capacity of 318,000 h.p.

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JANUARY

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
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MARCH

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JUNE

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JULY

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AUGUST

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OCTOBER

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NOVEMBER

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DECEMBER

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HYDRO NEWS



WINTER SOLITUDE

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VOL. 38 FEBRUARY, 1951 NUMBER 2



THIS KIND OF TARGET PRACTICE
costs money

Yes, Junior scored a bulls-eye all right . . . right on your pocketbook. You won't be called on to replace it yourself, but as a citizen of Ontario and one of the owners of Hydro, you pay for the damage in the long run.

Actually, the insulators themselves are comparatively inexpensive. But the damage that can result from a broken insulator can cause serious power interruptions by cutting service on that line. Hospitals may be deprived of power at a critical moment. Machines in factories may be stopped. Homes and farms may be affected, too. There is the added hazard of fire and if the wire falls to the ground, property and lives are endangered.

When an insulator is smashed, a crew of men and a truck travel miles to locate and repair the damage . . . and that costs money. Hydro appeals to you to help to prevent the deliberate or careless destruction of Hydro property . . . *your* Hydro property.



The Hydro-Electric Power
Commission of Ontario

HYDRO News

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 UNIVERSITY AVENUE, TORONTO

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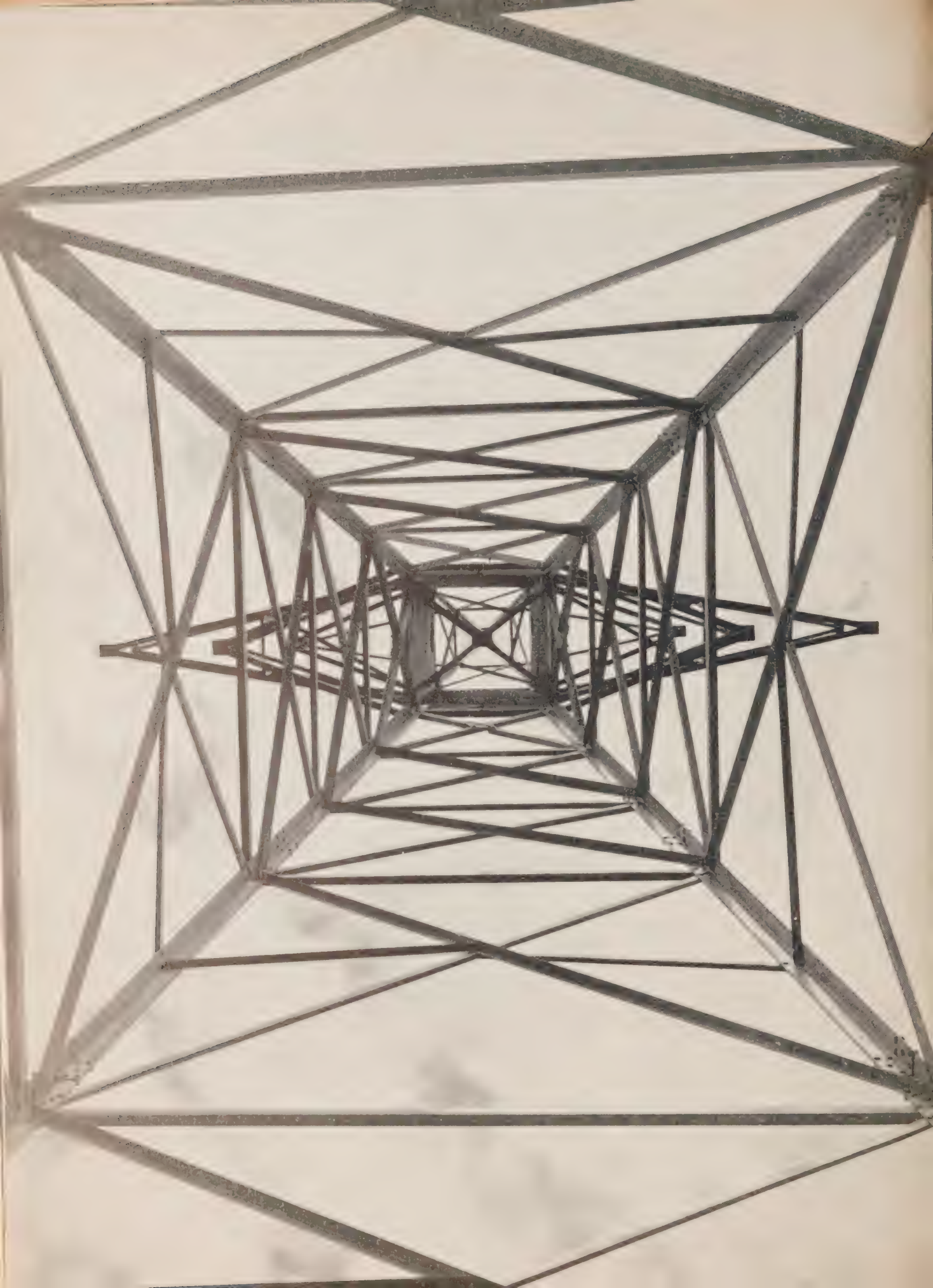
IN A LOVELY setting of freshly-fallen snow, the lonely cabin on this month's front cover attracted the eye of Hydro Photographer J. B. Helling during a recent trip to Northern Ontario. Also from Northern Ontario, is the back cover photo which was taken by A. W. Rice, Montreal River P.O.—an amateur photographer of more than ordinary talent. Depicted is the "power wagon" at Hydro's Matabitchuan G. S. while plowing the road between Silver Centre and Matabitchuan after a heavy snowstorm.

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February, 1951

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Work Started At Niagara

NIAGARA FALLS is synonymous with both honeymooners and Hydro. The almost breath-taking beauty of the water of the Niagara River cascading over the Falls attracts hundreds of thousands of visitors each year. At the same time, more than 800,000 horsepower is already being generated by three Hydro plants in the Niagara area.

And now, with the demands for electricity pyramiding, largely as a result of the increasing urgency of the international situation accelerating the production of essential war materials by Ontario factories, the Niagara River is again to the forefront as an important source of additional and much-needed power.

Last year, the signing of the Treaty between Canada and the United States paved the way for both countries to divert additional water for the generation of more power. That no time has been lost by the Commission in taking action is to be found in the fact that construction of a power project (the Sir Adam Beck-Niagara Generating Station No. 2) which will develop 600,000 horsepower has already been started. At present-day prices, it is estimated that this development will cost $157 million.

In recent addresses and when taking part in the University of Buffalo Round Table, broadcast and televised over WBEN on the evening of February 10, Hydro Chairman Robert H. Saunders stated that a crew of some 400 men were now on the job and that staff houses storage, railway, and other facilities were now being built. After all these necessary facilities have been provided, he pointed out, the Commission would be in a position to build up the required construction force that will be one of the largest ever engaged on any Hydro project.

Meanwhile, orders have already been placed for six 105,000-horsepower turbines with governors and three of the six 80,000 kva (102,500 electrical hp) generators.

The plans provide not only for accommodation, catering and recreational facilities for the construction force but also for the building of a modern 30-bed hospital to be erected near the work camps. This hospital, which will have room for additional beds if necessary, has been planned with a two-fold purpose in mind: to meet the needs of the Commission's employees in the camps and in order not to tax the existing hospital facilities in the Niagara area.

These facts barely highlight the tremendous amount of work accomplished to date in a minimum of time in order to speed delivery of additional power from Niagara. For example, a task of considerable magnitude has been completed by Hydro with the construction of a giant model of the Falls at the Commission's Islington Service Centre. The overall dimensions of this model are 97 feet by 37 feet. It has been built to a distorted scale to ensure a flow pattern similar to the actual river and also to facilitate accurate measurement for the depths of the river. The horizontal scale is 250 feet to one foot and the vertical is 50 feet to one foot.

Bearing an amazing resemblance to Niagara Falls and the Upper Niagara River, this project is a spectacle in itself with some 30,000 gallons of water making a complete circulation every 20 minutes to accurately and realistically simulate the flow of the river and the cascading at the Falls.

This model is of paramount importance from an engineering standpoint as it will assist not only in ascertaining the most suitable location for the intake of Hydro's new plant but it is important in determining the necessary remedial works that will be required to preserve the scenic beauty of the Falls, while permitting the diversion of more water by both U.S. and Canada for the development of additional power.

A similar model, but on a larger scale as it includes the upper portion of the Niagara River to Lake Erie, is being constructed by the United States Army Corps of Engineers at Vicksburg, Mississippi.

Evidence of the friendly and close co-operation between Commission and U.S. army engineers is to be found in the recent visit of a U.S. group to Canada to inspect Hydro's model —a trip which followed a visit by Commission Chairman Robert H. Saunders to Vicksburg where he saw the site of the U.S. model.

The careful study which is being given by both countries to preservation of the scenic beauty of the Falls will be reassuring to all who have been thrilled by this majestic spectacle. In this connection, it has been pointed out that it will be necessary to provide for a flow of water at the rate of 100,000 cubic feet per second at the Falls during the day in the summer months and 50,000 c.f.s. at night.

The remedial works are scheduled to be completed by 1954 when the people of Ontario will also be enjoying the benefit of an additional 600,000 horsepower generated by the waters of the Niagara River.

■NOT A SPIDER'S WEB! JUST AN UNUSUAL IMPRESSION OF A TRANSMISSION TOWER BY HYDRO PHOTOGRAPHER BOB ARMSTRONG.



1



2



3

Friendly

OVER 400 man-hours of work were donated voluntarily by some 80 employees of Hydro and Canadian Comstock Company during the recent move carried out by the Hospital for Sick Children in Toronto.

On three different occasions the men gave their time and services gratis — once for cleaning and maintenance work in connection with the Open House held by the hospital at its new building on University Avenue.

On two successive weekends they assisted in moving supplies and equipment into the new structure from the old building on College Street.

Trucks Provided

In addition to the actual physical labor, Ontario Hydro and Comstock provided a fleet of some 20 cars and trucks which are used during regular working days in connection with the frequency standardization program.

Four radio-equipped vehicles helped speed the work of moving medical, surgical and laboratory equipment and also the hospital's library.

Present during both moving days was Hydro Chairman Robert H. Saunders, who paid tribute to the contribution made by the men. "All these men," he said, "have displayed a wonderful spirit of public service. They, in common with the members of the Commission, are both proud and happy to welcome to University Avenue such a worthy neighbor as the Sick Children's Hospital."

Played Active Part

Mr. Saunders, incidentally, during his regime as Toronto's Mayor, took an active part in initiating the campaign which resulted in the opening of the new 632-bed hospital on January 15.



esture

He was one of the most interested spectators at the official opening, which drew crowds from many Canadian centres.

In the photos on these two pages are shown some of the men who took part in the moving operations.

(1) A few of the trucks on which were loaded various types of equipment to be moved from one building to the other. In the foreground is one of the radio-equipped cars.

(2) Before beginning work, white-coated employees of Hydro and Canadian Comstock were "briefed" by Hydro Chairman Saunders in the lobby of Hydro's Head Office building on University Avenue near the new hospital.

(3) The little patients took a great interest in proceedings. Here, a quartet of little girls watch as office furniture is wheeled out of the old building by K. Patune, R. Bean, G. Hunter, and F. Corin.

(4) Laundry, too, came in for its share of handling. Jack Colgan and Bill Fenwick helped to pack piles of snowy linen into pillow-cases and other containers prior to their transfer to the new structure.

(5) Helping to load one of the F.S.D. trucks are Lloyd Scott, Fred Stickney, Jim Woodyatt, Fern Marchan, Bill Hall, and W. J. Clark.

(6) Vital equipment in any hospital, beds and bedsprings were carefully wrapped and loaded on vans. Bill Hall, Gord Burley, Roy Foran, and "Mickey" Miller help unload them at the new building's entrance.

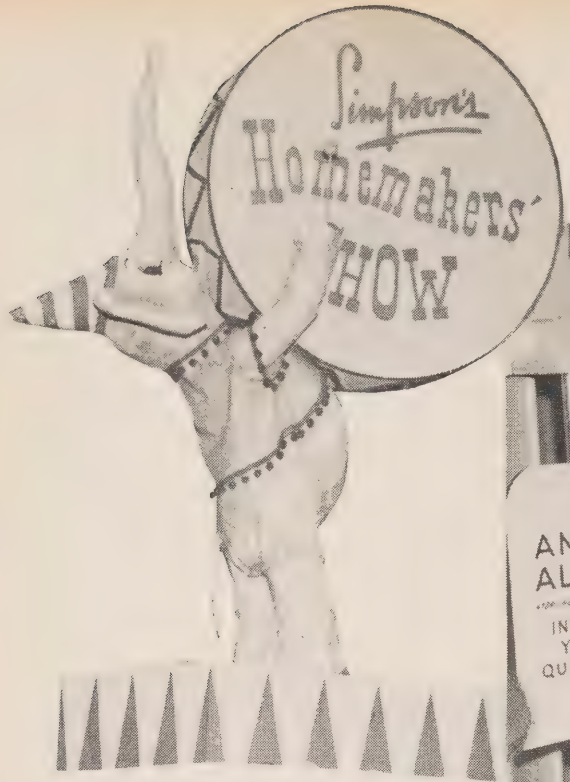
(7) This one speaks for itself — pretty Mrs. Gladys Snelling welcomes Alan Kertland with his burden.













IN THE Homemakers' Forum, Anne Allan, Hydro Home Economist, and Editor of "The Mixing Bowl," demonstrated with colored slides the care and maintenance of electrical appliances. Miss Allan also discussed other household topics with visitors and distributed copies of recipes.



COOKING schools, continuous movies, glass blowing, pottery making, rug weaving, aluminum spinning, a hobby show, amateur art gallery, a talking rug, radio shows and many other exhibits featured the 4th Annual Homemakers' Show. Occupying three floors of the large Robert Simpson Company store in Toronto, this event attracted thousands of visitors during its two-week run.

Among the interesting displays, totalling more than 50, was a "Better Living Through Electricity," exhibit sponsored by Ontario Hydro. Anne Allan, Hydro Home Economist and Editor of "The Mixing Bowl," a weekly newspaper column, was on hand with colored slides to demonstrate the care and maintenance of electrical appli-

★

by
Grace J. Carter
News Editor





ANOTHER SECTION of the Hydro exhibit dealt with adequate wiring as a "Key to Better Electrical Living." Rosanne Richardson, Promotion Department, one of the demonstrators, shows visitors how overloaded circuits, insufficient outlets and certain types of cords cause trouble.



ances. Miss Allan also discussed other helpful household topics and timely recipes.

Rosanne Richardson of the H.E.-P.C. Promotion Department showed what could happen when the home was inadequately wired. Miss Richardson demonstrated how overloaded circuits, insufficient outlets and certain types of extension cords could blow fuses.

Another section of the Hydro exhibit was devoted to the Frequency Standardization Division, where a map of Toronto indicated when the various areas would be changed over from 25 to 60 cycles. Colored slides showed the numerous steps taken in changing over each section, and stressed the need for customer co-operation in carrying out this tremendous program.

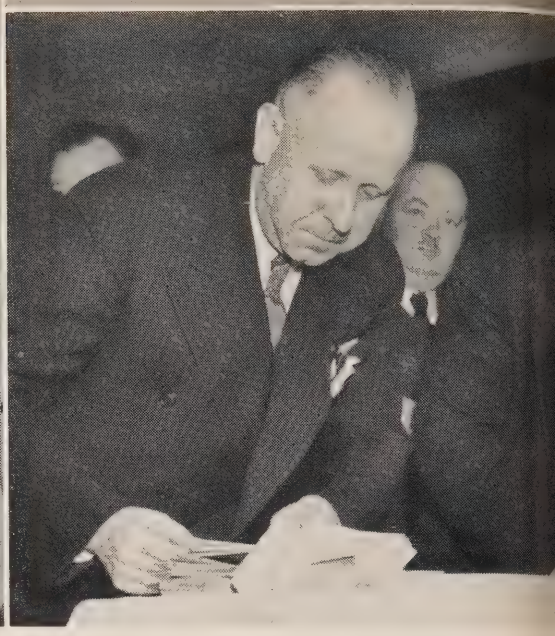
★

MANY SPECTATORS paused at the frequency standardization section of Hydro's display where they received valuable information on the procedure followed in changing over household equipment from 25 to 60 cycles.





EXECUTIVE OF District 8 this year includes J. Clark Keith and Gordon H. Fuller, Windsor, Secretary-Treasurer and President respectively; Dennis Herring, Sarnia, Vice-President; Ralph Burr, Stanley G. Thomson, Warren Bolton, Directors.



OVER 100 delegates attended the one-day annual meeting held at Windsor. John Cook and Thomas Sherk registering prior to commencement of session.

St. Lawrence Power Vital

GORDON H. FULLER, Chairman of Windsor Utilities Commission, was elected President of District 8, O.M.E.A., at the recent annual meeting in Windsor.

Approximately 100 delegates, representing the 34-member municipalities of District 8, attended the one-day session in the Border City.

Climaxing the meeting, delegates elected the following 1951 executive: Dennis Herring, Sarnia, Vice-President; Ralph Burr, Point Edward, Stanley G. Thomson, Chatham, and Warren P. Bolton, Windsor, Directors. Mr. Bolton will represent District 8 on the executive of the Ontario Municipal Electric Association. J. Clark Keith, General Manager, Windsor Utilities Commission, was re-appointed Secretary-Treasurer.

Complimentary Luncheon

Featuring the complimentary luncheon tendered by Windsor Public Utilities Commission, were greetings from the O.M.E.A. by President D. P. Cliff and an address by Chairman Robert H. Saunders.

Dominant theme of Mr. Saunders' address was the vital importance of developing the power resources of the St. Lawrence River immediately.

"If we are to continue to give low-cost power and give it in abundance, then we must get the St. Lawrence," he declared.

The Hydro Chairman also sounded an optimistic note when he announced "It is our belief that, barring unforeseen circumstances, no restrictions or cutoffs will be necessary this winter."

In this connection, he pointed out that "Hydro is one of the very few organizations on this continent which has been able to meet the challenge of war production without restrictions or cut-offs."

Continuing, he said: "Your Commission, during the past six months, has withstood increases in power demands, five to six times greater than the average increase over the last 10 years."

Increased Demands

For example, during the third week of January this year, the Commission had met an average week-day primary demand of 3,100,000 horsepower in the Southern Ontario System. This figure represented an increase of 484,000 horsepower or 18.5 percent over the primary demand during the corresponding week last year.

Throughout the province as a whole, the Commission, during the same week, supplied a total energy demand of 284,051,800 kilowatthours, an increase of 21.8 percent over the corresponding week a year ago.

In order to meet these growing requirements, Hydro had increased its resources by 41 percent since 1945, Mr. Saunders also stated.

"In 1945 — the last year of war — the Commission's total resources were 2,597,400 horsepower," he continued. "By December, 1950, these resources had been increased by about 1,062,500 horsepower."

During January the third unit at Chenaux was brought into service, increasing Hydro's resources by another 20,000 horsepower up to 3,679,900 horsepower.



ANOTHER COTTAM delegate, Roy Butler, left, engages in a friendly discussion with G. W. Hogarth, Chairman, Kingsville P.U.C. and C.G. Loop, Kingsville's Mayor.

Abundance Of Low-Cost Power Depends On Early Development Of Resources Of Great River, Hydro Chairman Tells District 8 O.M.E.A. Members



REPRESENTING TWO widely-separated municipalities, these two delegates, James Gray, Superintendent, North York, and C. W. King, Superintendent, Dresden, discussed common problems.



"WHEN DOES lunch start, I'm hungry?" Claude McMann, Manager, Sarnia Hydro-Electric Commission asks R. Finlay, Windsor and Elmer Sherman, Supt., Kingsville Public Utilities Commission.

These increases in power demands and resources were reflected in the phenomenal growth of the province, Mr. Saunders stated.

"Our population is close to the 4,800,000 mark compared with 4,107,000 in 1946. Over 700 industries and new manufacturing plants have been established in Ontario since 1947," he pointed out.

Nothing could stop Ontario's forward march except the lack of electric power, the speaker stated.

"Therefore, we must prepare for that future. We must reach the point where we have enough power to meet the actual demands, as well as a safe margin of reserve to protect our people against a shortage of water, breakdown of equipment or incorrect estimating."

Actual requests for additional power and the Commission's estimates of the

(Continued on page 36)



ABOVE—ANSWERING Mr. McMann's query, these delegates, S. H. Gillett, Windsor; Adam Smith, London; Walter Dixon, Arthur; M. J. Brian, Windsor, and Dennis Herring, Sarnia, were head table guests at the luncheon tendered by Windsor Utilities Commission. Below—W. G. Long, Kingsville, second from left, has found a friendly audience in this group from Cottam which includes, Claude Cowan, William Poulter and J. C. Montgomery.





HYDRO HOME FORUM



by
Edithemma Muir
Home Economist



Soup has been a good cold-weather food for centuries, and there's no visible threat to its popularity in the future. In place of the stock pot at the back of the stove there are stacks of cans on the kitchen shelf right above the range. Canned soup in the eyes of the career homemaker is good to go home to, see and eat.

* * *

Salt enough! When you use concentrated cream soup, such as celery or mushroom, to take the place of a white sauce for chicken a la king or ham creole, do not add salt to the meat. There is enough in the soup.

* * *

Large or small? When you buy oranges for serving in halves or segments, select the large navel oranges. The small Valencia oranges for juice are usually the best buy.

* * *

One-half orange or about 6 ounces of fresh juice or frozen orange juice mix fills the important daily need of Vitamin C—providing you drink it every day.

* * *

Storing egg yolks or whites? Pour cold water over egg yolks, cover and store in electric refrigerator. Pour off water before using . . . Store egg whites in a deep covered jar or bowl in refrigerator.

* * *

Here is a quick rarebit that is ideal for career wives to prepare in a jiffy: 1 can of condensed tomato soup, 1 cup grated old cheese, ½ cup chopped prunes and ½ cup walnuts. Combine all ingredients and heat on electric element turned Low. Serve on toast, accompanied with salad.

* * *

Nippy flavour: A tiny bit of horseradish added to the cream sauce for sliced hard-cooked eggs makes a pleasing supper dish.

What next? We've tasted prunes that were cooked in sweet pickling syrup and stored for three months. It may be said that such foods give meals individuality.

* * *

Never wrong! A fruit cup as a company dessert will always please everyone. Add a half diced raw apple or sliced banana for economy, and a few slivers of candied ginger for added flavour.

* * *

Chocolate Cups: Melt semi-sweet chocolate in double boiler. When thin, pour a little into paper cup-cake molds. Spread all over inside and bottom of cup. Fill with ice cream sherbet or cream pudding. Chill cups in freezing unit of electric refrigerator. Now they are ready for serving plates.

* * *

Piece de resistance! For steamed cake dessert, make a tasty sauce. Thicken a cup of leftover fruit juice from a jar of pears or peaches and at the last minute stir in a teaspoon of apricot brandy.

OVEN FRIED OYSTERS

1/2 cup flour
1 teaspoon salt
1/8 teaspoon pepper
1 dozen oysters
1 egg
1 cup cracker crumbs
1/3 cup salad oil

1. **Mix together flour, salt and pepper. Roll oysters in seasoned flour. Dip in slightly beaten egg. Roll in cracker crumbs. Then dip in salad oil and drain for a few minutes on absorbent paper.**
2. **Arrange oysters on a heat-resistant glass platter. Bake in a moderately hot electric oven, 400° F., for about 20 minutes or until oysters are browned.**

Smooth, flavourful sherbets are delightful in any kind of weather. Combine 4 tbsps. lemon juice, 1 tbsp. lemon rind, and 2/3 cup sugar. Beat in 1 cup top milk, 1 cup 18% cream, 2 tsps. maraschino cherry juice and 1/3 cup minced maraschino cherries. Pour into freezing trays of electric refrigerator. Stir several times during freezing.

* * *

If you cannot make light fluffy dumplings, bake tea biscuits seasoned with dried mint and dunk in the lamb stew.

* * *

To sample the fresh marmalade, make drop oatmeal cookies and bake in a moderate electric oven at 375 degrees for 5 minutes. Remove from oven, make a depression in the centre of each cookie and fill with marmalade. Return to oven and bake 8 to 10 minutes, or until delicately browned.

* * *

Any leftover mincemeat? Mix 1 cup finely diced raw apple for 2 cups of mincemeat and make a good deep pie. Toss in a few candied cherries for extra flavour, if you have them, or better still, a teaspoon of cherry brandy.

* * *

Scalloped tomatoes are economical and consume the dry bread crumbs as a topping. Help the servings "stay put" by adding a tablespoon of minute tapioca before baking — and flavour them with a little finely minced onion and one bay leaf.

* * *

More about vegetables. Don't forget to buy some dried mint and add a pinch to canned peas. Also steep some mint in salad oil, then strain and mix oil in salad dressing.

* * *

It tastes better than it sounds — an orange-flavoured butter cake covered with maple cream frosting and sprinkled with chopped peanuts.

Erin joins the family



by
Grace J. Carter
News Editor

Chairman Saunders Welcomes New Member At Ceremony Marking Inauguration Of Village Hydro Commission

"IT is a pleasure for me to welcome you into the Hydro family as one of the 314 cost municipalities in this province," Chairman Robert H. Saunders declared during the ceremonies marking the inauguration of Erin Hydro-Electric Commission on January 17.

Mr. Saunders pointed out that back in 1910 only 10 or 12 municipalities were being served in various ways. "We believe," he continued, "that it is our duty to extend the benefits of electricity to as many people in this province as possible. At the beginning of 1945 we were supplying 144,000 rural customers, and today we are serving 293,000."

Barometer of Progress

Mr. Saunders described Hydro as "a barometer of progress in Ontario," and pointed out that it was the duty of the Commission, as a public ownership enterprise, to meet the needs of all who required service and, at the same time, exert every effort to keep pace with the steadily-increasing demands for power. He expressed the belief that Erin would derive many benefits from its association with Hydro.

After an evening banquet at the Hilltop Lodge, the guests moved to the town hall where the inaugural ceremony took place under the chairmanship of former Reeve Clayton Justice.

Other speakers were D. S. Leitch; D. G. Ferguson, Manager of the Commission's Georgian Bay Region; Joseph Musgrove, Chairman of the Erin Commission and J. A. Blay, Manager of Promotion, H.E.P.C.

During the evening a cheque for $2,100, representing a maintenance surplus to the end of September last year, was presented to Joseph Musgrove, Chairman of the local commission. Mr. Musgrove was also the recipient of pictures of Sir Adam Beck, "The Father of Hydro," the H.E.P.C. Administration Building on University Avenue in Toronto, and one of Mr. Saunders.

Hydro's color film, "Niagara The Powerful," was shown in the afternoon to the senior students at the Erin Public and Continuation School and later to the guests at the town hall. The hall was tastefully decorated for the occasion, including an exhibition of a number of large pictures of Hydro developments and generating stations throughout the province.

★

ERIN'S CHAIRMAN

Joseph Matthew Musgrove, Chairman of the Erin Hydro-Electric Commission, was born and educated in England. Since coming to this country, he has carried on a grocery business. During 1949 and 1950 he served on the village council and he is a member of AF and AM, No. 271 Wellington.

Mr. Musgrove's interest in sports leans towards soccer, baseball and hockey.

Incorporated in 1881

Originally a Scottish settlement, it is regarded as a Celtic quirk of fate that this community should have been given an Irish name.

Situated in Wellington County on a branch of the Credit River, it was incorporated as a village in 1881. Its chief



NEW MEMBERS of Erin Commission, left to right, Mrs. J. A. MacKenzie, Secretary; Auburn Wright, Joseph Musgrove, Chairman; D. S. Leitch, and Ernest Teeter, (standing), maintenance.

industries are grist, planing and saw mills, sash and door factory, creamery and shoe factory. It is the centre of a great potato and stock-raising district and is also a popular summer resort.

There are approximately 625 residents in the village which has four churches, a public and high school, a public library and many attractive homes. The annual fall fair at Erin attracts many visitors from surrounding districts. The weekly newspaper, Erin Advocate, is published by R. W. Hull.

Erin was served by the Caledon Electric Company until November, 1944, when this company was purchased by the H.E.P.C. Customers were served directly

(Continued on page 36)

★

NEW SECRETARY-TREASURER

Jean Agnes MacKenzie, newly-appointed Secretary-Treasurer of the Erin Hydro-Electric Commission, took over her duties at the beginning of the year. Just prior to that she was appointed Clerk and Treasurer for the village.

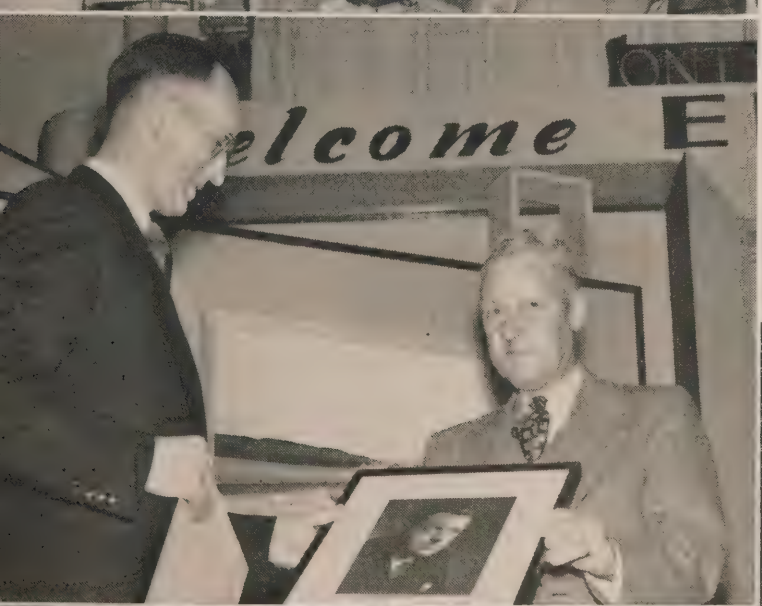
Mrs. MacKenzie was born in Toronto and attended school there, and later at Erin.



HYDRO CHAIRMAN Robert H. Saunders addressed gathering in town hall which marked inauguration of Erin Hydro-Electric Commission. Others at the ceremony included D. G. Ferguson, Manager, Georgian Bay Region; Ross R. McEwing, M.L.A.; Clayton Justice, Joseph Musgrove, J. A. Blay, Manager of Promotion, H.E.P.C., J. Gordon Wright, C. E. Crease, Consumer Service Engineer, Georgian Bay Region, and Auburn Wright, Erin.









ERIN—Continued

1. MARKING THE entrance to Stanley Park, one of the scenic spots in the village, is the ornamental gateway which bears Erin's tuneful slogan. Rene and Rickey Robinson, with their canine companion, pose under arch.

•

2. JUNE AND Bonar Magill at work in the family-owned shoe factory, one of Erin's thriving industries. Mrs. Magill is operating a "nailer". Her husband is working on man's shoe at a niggerhead lasting machine.

•

3. DURING inaugural ceremonies, D. G. Ferguson, right, Manager of Hydro's Georgian Bay Region, presented framed photograph of Chairman Saunders to Joseph Musgrove, Chairman, Erin Hydro-Electric Commission.

•

4. ANOTHER ERIN industry is the Mundel Sash and Door Factory. Jimmy Mundel (left) is operating an electrically-driven sanding machine, while fellow-worker, Earl Barr, right, examines completed window sash.

•

5. GRADING EGGS is a specialized job. At the village creamery, Mrs. Addee Payie, performs her job efficiently and easily with the aid of an electric "candling" machine which shows up imperfections in eggs.



Continuing Stability

Long-Service Employees Of Toronto Hydro Lauded By Chairman Loftus H. Reid





A SPIRIT of camaraderie was very much in evidence when over 400 members, who have completed 25 or more years' service with the Toronto Hydro-Electric System, attended the 23rd annual banquet of the Quarter Century Club at the Royal York Hotel in Toronto on January 26.

Nine members received special buttons designating 40 years' service, and 27 new members "graduated" into the "Charmed Circle." This swells the total number who have completed at least a quarter century of service to approximately 700, slightly less than 50 percent of the entire staff of 1,500.

Under the chairmanship of President H. B. Swift, speeches were kept brief. In his own short talk he pointed out that the long years of service by so many had meant a great deal to the Hydro System in making it "second to none" to any similar plant on the North American Continent.

They were justifiably proud of the organization, he said, not only because of its outstanding record of high public service but because of the emphasis it placed on human values.

Chairman's Address

Loftus H. Reid, Chairman of the Toronto Electric Commission, said that the 700 employees who had completed 25 or more years' service had brought a continuing stability to the Toronto System.

The work of the organization could



UPPER PHOTO—Special buttons were presented to these men who completed 40 years' service with the T.H.E.S. last year: Back row — N. I. Fisher, W. R. E. Hadden, Carl E. Schwenger, A. W. J. Stewart, W. G. Cambridge, J. L. Bradford; Front row—F. W. Peasnell, E. M. Ashworth, Walter Burch and Herbert Powell. Lower photo — R. J. Johnson, Past President, Quarter Century Club; E. M. Ashworth, Chief Engineer and General Manager and Loftus Reid, Chairman, T.H.E.S.; H. B. Swift, Club President. Photographic replica of 25-year button is also shown.

be carried on only by the permanent public servants and not by passing personalities who occupied the stage for a short time. Mr. Reid told the members that employees completing 25 years' service would be entitled to four weeks' vacation each year.

E. M. Ashworth, Chief Engineer and General Manager of the system, spent a few minutes reminiscing on some of the highlights of the past few years.

A pleasant feature of the evening was the presence of several feminine members of the club who, although very much in the minority, were "right at home" among their male colleagues.

During the evening, Mr. Swift read the names of those members who had passed away during the year, and with lights dimmed the entire assembly rose and paid silent tribute to their memory.

An excellent floor show was included on the evening's entertainment with enough time left for the members to get together and renew "auld acquaintances."

New Members

Those completing 40 years' service were: Norman W. Ashlee, Edward M. Ashworth, Jesse Ausman, Jack L. Bradford, Walter C. Burch, W. George Cambridge, Norman I. Fisher, William R. E.

(Continued on page 34)

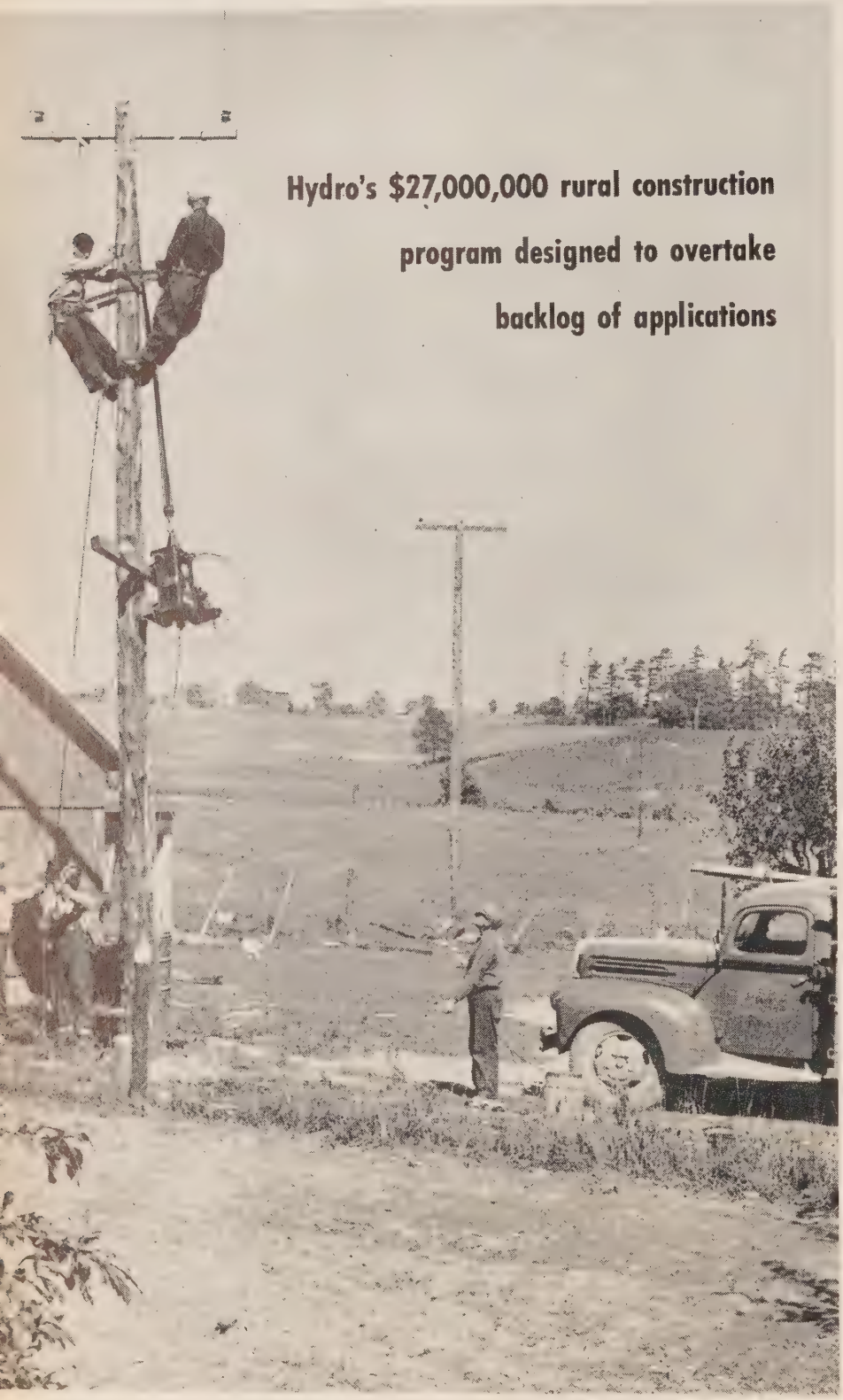


RECALLING THE "good old days" is a "main event" at the annual banquet. Frank Seldon, George Baird, John Tilston and F. J. Bennett were reminiscing when this photograph was taken.



IMPROMPTU VOCALIZING is another diversion for club members. "Gruesome Groaners from the Garage" repeat their now-famous rendition of "Let Me Call You Sweetheart." Choral group includes William D. Barclay, Charles Newman, Reginald Stevenson, J. B. Staniland, S. C. Cramp.

38,000 NEW CUSTOMERS



Hydro's $27,000,000 rural construction program designed to overtake backlog of applications

by
Dennis A. Dack
Hydro News

DESIGNED to overtake the backlog of applications for rural service now on hand and most applications received during the present year, Hydro's record-breaking, $27 million expansion program is expected to bring the benefits of electricity to more than 38,000 new rural customers before the end of the year.

It will involve the construction of some 4,200 miles of new rural line by about 125 Hydro rural construction gangs working in every section of the province.

Directing attention to the Commission's decision to accelerate an already fast-moving rural program, Chairman Robert H. Saunders stated that Hydro had always recognized the important part agriculture plays in the overall economy of the country — especially in times of international stress — and had always been conscious of the urgent needs of those who cultivate the land.

In little more than five years he pointed out, the number of rural customers being served has been doubled, and today something like 65 percent of Ontario's farms are electrified. At the beginning of 1945 there were approximately 144,000 rural customers served by Hydro. At present there are well over 290,000. The start of 1945 saw 20,500 miles of rural line in service; today there are over 34,500 miles.

An Achievement

These figures reflect an achievement which Ontario Hydro has accomplished in the face of many difficulties. In addition to aggravating postwar shortage of materials and labor, there has been another factor with which the Commission has had to contend — that of mounting costs of materials, equipment and labor.

During the ten-year period between 1939 and 1949, the cost of pole line hardware alone jumped by an average of 95 percent. The price of transformers increased 35 percent; poles by more than 100 percent; meters 39 percent; aluminum conductors 69 percent; copper conductors 79 percent; and switches by 100 percent.

In spite of such increased costs, the Commission has continued to deliver low-cost electric power to the farmer. At present, farm service revenue in Ontario, on a kilowatthour basis, is estimated at 2.04 cents. That is slightly less than in 1944 when it was 2.11 cents, and sub-

stantially less than it was in 1940 when the rate was approximately 2.56 cents per kilowatthour.

In return for his quarterly Hydro bill, the farmer receives power to operate his machinery and help him enjoy the many advantages and comforts previously available only to the city home. Innumerable time-consuming chores about the house and barns have been eliminated where rural electrification has taken place. Hours of laborious work have been cut to a minimum for farmers with electric grain blowers to assist them in storing grain. On the farm, electricity now pumps the water, it milks the cows, it cools the milk, it separates the cream and churns the butter, it grinds the grain, and incubates the chicks. Most certainly Hydro has become the farmer's "hired-hand" — the tireless ever-working friend of countless hundreds of people who live in Ontario's rich and bountiful rural sections.

The lot of the farmer's wife, too, has been eased by electricity. She has found the cooking and storing of food simplified by her electric stove and refrigerator. Her vacuum cleaner, washing machines, and radio help her to clean house and be entertained at the same time.

That the farmers have taken full advantage of rural electrification in Ontario is obvious from the increase in rural consumption of power. In 1940 the maximum aggregate peak rural load was 84,346 horsepower. Indicative of the tremendous contribution Hydro is making to the rural development of the province is the fact that in a period of only 10 years the figure has more than trebled. Today it is in excess of 314,000 horsepower.

The farmer has not been slow to take full advantage of the power which



is being made available to him. Individually, he has been able to face labor shortages and, at the same time, cultivate more land. Collectively, the farmers have worked towards making the province one of the foremost agricultural centres in the country. A recent estimate put the gross value of agricultural production in Ontario for 1950 at more than $1.1 billion — almost three times as high as our total agricultural production in 1944.

Of far-reaching significance also is the way in which rural electrification can help stem the flow of rural residents to the towns and cities.

In common with other Canadian provinces, Ontario has witnessed this steady shifting in the distribution of its population. So marked has this movement been that over a period of three decades the number of occupied farms in Ontario decreased from 212,108 in 1911 to 178,204 in 1941.

As disturbing as this trend to urbanization may be, however, the important point is that wherever rural electrification has taken place there has been no noticeable cancellation of service to any farmer.

Line Relocation

Apart from the important task of extending rural distribution lines, Ontario Hydro is constantly engaged in tremendous maintenance work. In this respect, few potential hazards to the effective operation of rural power services have taxed the resources of Hydro as much as the overhanging tree. Thousands of dollars are spent yearly by the Commission on treatment of trees and it is realized that the answer to the problem lies in the relocation of hydro lines.

Severe sleet and wind storms occurring in Western Ontario last February brought the subject to a head when many rural distribution lines were out of service for as long as 48 hours. More recently, wind storms last November caused extensive damage to lines in many parts of Southern Ontario resulting in interruptions of service for varying periods up to several hours.

Rebuilding of lines damaged by the earlier series of storms alone cost Hydro $300,000. At the same time, early last summer, an appropriation was also made to relocate 185 miles of rural line at a cost of $560,000.

Line Clearing

This stepped-up program to relocate 160 miles of rural line in the Western Region and 25 miles in the West Central Region stems back to when the Commission was first formed. At its inauguration, Hydro received the rights to place distribution lines along the highways. While this was at first thought to be an ideal location, the spreading branches of trees from adjoining private property in

(Continued on page 20)

HYDRO'S ACCELERATED rural expansion program will make this a familiar sight in Ontario this year as linemen construct 4,200 miles of new line to bring the benefits of electricity to more than 38,000 customers.





MOBILE DIGGER combines work of auger and derrick in the erection of rural Hydro poles. Mounted on half-tracks, this digger has proven highly manoeuverable in rough country. With this time and labor-saving device, three men can accomplish work of five in half the time.





ELECTRIC GRINDER, automatically fed from the granary above is a valuable asset in the dairy barn. Motor operates milking machines and grinder in one economical operation. Pipe line milking machines are shown below.



O POLE, with transformer and meter, is located tre of farmer's yard, approximately the same ce from each building. This eliminates long es of overhanging wires and is economical.



BELOW: THERMOSTATICALLY-CONTROLLED electric brooder cuts time and labor in half. Thermostatic control improves chick health by keeping safe, even heat under all temperatures.





HYDRO'S PROGRAM of rural line relocation, now underway, was inaugurated as a means of reducing the expense and labor of line clearance and tree-trimming work as well as the heavy cost of rebuilding rural distribution lines damaged during severe wind and sleet storms.

heavily wooded areas, made it necessary to carry on extensive line clearing operations.

Line clearing is carried out by the Commission in co-operation with the landowner. In 1949 Hydro's foresters and contractors' men cleared 2,328 miles of rural line involving the treatment of 128,203 trees. During the eight months ending July 31, 1950, something like 1,681 miles of rural line were cleared and 91,150 trees treated. It has been estimated by Ontario Hydro's foresters that line clearance work involves the periodic treatment of approximately 1,883,820 trees over 44,000 miles of transmission and rural line.

This work obviously places a tremendous burden upon the resources of the Commission and in an effort to overcome this problem of expense and labor the present program of relocation was instituted.

Where it becomes necessary to place Hydro poles on private property a right-of-way is obtained from the landowner. Although the Commission has the right to expropriate, this is seldom, if ever, done as mutually satisfactory arrangements are usually made.

In the early days of rural electrification Hydro poles were placed 150 feet apart. With the aid of the modern aluminum conductors it is now possible to span 275 feet, though it is more usual to limit the distance to 250 feet. Thus, the cost of relocation has been decreased and a start has been made to overcome the problems commonly associated with tree interference.

Great Common Denominator

In maintaining its rural service, Ontario Hydro has been described by the Commission's Chairman Robert H. Saunders as being the great common denominator, serving the electrical requirements of both urban dweller and farmer alike. Just as these two classes of people are dependent upon each other for their day-to-day needs, Hydro is supplying them both with the power necessary to maintain the high standard of economy which this province is at present enjoying.



40 YEARS' SERVICE

LEADERS in civic, political and industrial life were there. In company with representatives of almost every profession and occupation, they gathered at Port Stanley's Stork Club recently to honor one of the deans of Canadian engineering — E. V. Buchanan of London, on his 40th anniversary with the London Public Utilities Commission.

Speaker after speaker paid their tribute to the Scottish-born General Manager

(Continued on page 34)

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Among the 100 guests or more present, were members of Mr. Buchanan's own family. Their pride on this occasion is indicated in the upper photo taken while his brother, A. M. Buchanan, adjusted the honored guest's heather boutonniere. The heather arrived from Scotland by air a few hours before the dinner. Mr. Buchanan's son, Bill, and son-in-law, Douglas Mossop, (extreme left and right) smilingly approve the gesture.

A further honor was accorded Mr. Buchanan when Garnet Speers, Reeve of Port Stanley, (centre), presented him with a letter notifying him of his adoption as an honorary citizen of this community.

Head table guests, in the lower photo, included Ven. Archdeacon W. A. Townsend, Mayor Allan J. Rush, J. B. Hay, (P.U.C. Vice-Chairman); Dr. J. J. Talman, Chief Librarian, University of Western Ontario; R. W. D. Lewis, Mr. Buchanan, George Leacock, Toronto; Elmo Curtis and Alex Calder, P.U.C. Commissioners and Vernon McKillop, Assistant General Manager, London P.U.C.



Four Units in Service

Expect Chenaux plant will be at full operating capacity of 160,000 horsepower by end of August

by
Shaun B. McQuillan
Hydro News

GIANT bridge cranes in Chenaux powerhouse thundered overhead. Humming generators sent muffled vibrations tingling through the building. Hammers banged and safety bells clamored.

Plant Superintendent Ken Gemmell's sandy-hued mustache twitched above a wide grin.

"Yes, Sir!" he exclaimed. "She's coming along fine!"

And that seems to sum up the rapid progress being made in building this $29,800,000 power project at Portage du Fort, 10 miles north of Renfrew.

Stator sections, rotor parts, switchboard equipment, turbines, exciters, and a galaxy of component parts from washers to governors are daily flowing into the powerhouse. Crews of workmen, employees of the Pentagon Construction Company Limited and Canadian General Electric Company of Peterborough, manufacturers of much of Chenaux' electrical equipment, are busy assembling the generating units for installation.

Other workers are occupied with interior decoration, lighting, cables, switch gear, control equipment, ventilation, flooring and plastering.

As the construction program, under the supervision of Resident Engineer Frank J. Dobson, reaches its final stages, the army of men which constructed four dams on the Ottawa River and built the eight-unit generating station is gradually being reduced.

When *Hydro News* visited the plant in January there were 500 construction men at work compared with more than 1,000 a month earlier. By September, in progressive stages, they will have left the camp, and Hydro's operating and maintenance staffs and their families will settle in a little colony of permanent homes.

Generating Units

Main work at present is the installation of the generating units. Four of the eight scheduled units, each rated at 15,000 kilowatts (20,000 hp), are now in operation. The remainder will follow progressively until by August 30 of this year the development will be operating at its full capacity of 119,000 kilowatts (160,000 hp).

This section of the Ottawa River, on the course followed by Samuel de Champlain 300 years ago, has undergone vast changes since construction work began in the spring of 1948. In those early months, gangs of laborers slashed away the brush and bulldozed roads on the Ontario side.

Then followed the work that has created an artificial lake, one mile in width and eight miles in length, stretching from Portage du Fort to Bryson, Quebec.

Four Dams

The four dams, which hold back the once-rampant stream in this picturesque section of the Ottawa Valley, have a total length of 4,000 feet. They comprise the 1,400-foot main dam in the west channel bounded by the Ontario shore and Limerick Island; the 1,100-foot Limerick Island dam; the 1,400-foot dam at Portage du Fort blocking the remaining channel, and a side dam 100 feet long, north of Portage du Fort.

The powerhouse forms an integral part of the main dam. Its superstructure towers above the comparatively low head dam, and the turbine-generators, operating under a head of 40 feet, require no penstocks. The water flows to the turbines through concrete intakes.

As dams and powerhouse were taking shape amid the pine and spruce-covered Laurentians, Hydro's line crews were busy constructing the power lines that link Chenaux to the Southern Ontario System.

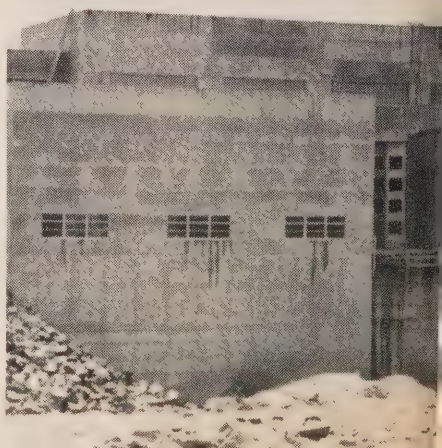
A 28-mile, 230,000-volt transmission line was constructed from Chenaux to Mountain Chute to tie in with an existing line which had previously been operating at 115,000 volts. This line terminates at the 230,000-volt Peterborough Transformer Station, at which point the output of the Chenaux plant is stepped down to 115,000 volts and absorbed in the Eastern Ontario Division of the Southern Ontario System.

Areas still operating on 25-cycle power are also enjoying the benefits of Chenaux' output through the facilities of Scarborough Frequency Changer and Transformer Station and other frequency changer stations.

New Circuit

When Chenaux first began operation, a rearrangement of high voltage lines associated with the developments on the Madawaska River was necessary. A new, 115,000-volt circuit was built from Barrett Chute to Kingston. As a result of the rearrangement and of new facilities, power supply to Eastern Ontario has been made more secure.

In addition to its power contribution to the Southern Ontario System, Chenaux, by virtue of its comparatively central situation, is expected to become a major repair depot for several large generating stations.



WITH FOUR units, each rated at 20,000 hp., already in service, and the fifth on the starting line, Chenaux Generating Station, is now making an important contribution to Hydro's total power output. The massive powerhouse, shown here, forms an integral part of the main dam.



According to present plans, the Chenaux shop will do repair work for Des Joachims, Chats Falls and La Cave stations on the Ottawa River; Stewartville, Calabogie, and Barrett Chute on the Madawaska River, the George W. Rayner G.S. on the Mississagi and High Falls station on the Mississippi.

The machine shop will carry out major repairs which cannot be done by surrounding stations and will be equipped with a large boring mill and lathe in addition to other repair facilities.

For some years the Sir Adam Beck-Niagara Generating Station No. 1 has had the only machine shop fully equipped for shop work on heavy Hydro equip-



CHENAUX POWER is stepped up to 230,000 volts in this switching area and is transmitted 28 miles over a high tension line, right, which is linked with an existing line at Mountain Chute.



LIMERICK ISLAND DAM, 1,100 feet in length, includes a spillway section with sluice gates and stop-log sluices to handle flood discharge. Final closure of the river will be made in the sluice gate section of this dam when all Chenaux units are in operation in August this year.



ment, such as turbine runners and shafts.

Meanwhile, one of the busiest phases of work on Chenaux powerhouse these days is the installation of all generating units, switchgear, control, metering and relaying equipment.

Amplidyne System

A feature of the generating units is the amplidyne system of voltage regulation. Used during the war for efficient operation of gun turrets on warships, the system is faster in response and more



Skilled workmen commence assembly of quarter section of No. 6 stator at Chenaux plant.



sensitive than the present rheostatic method of voltage control.

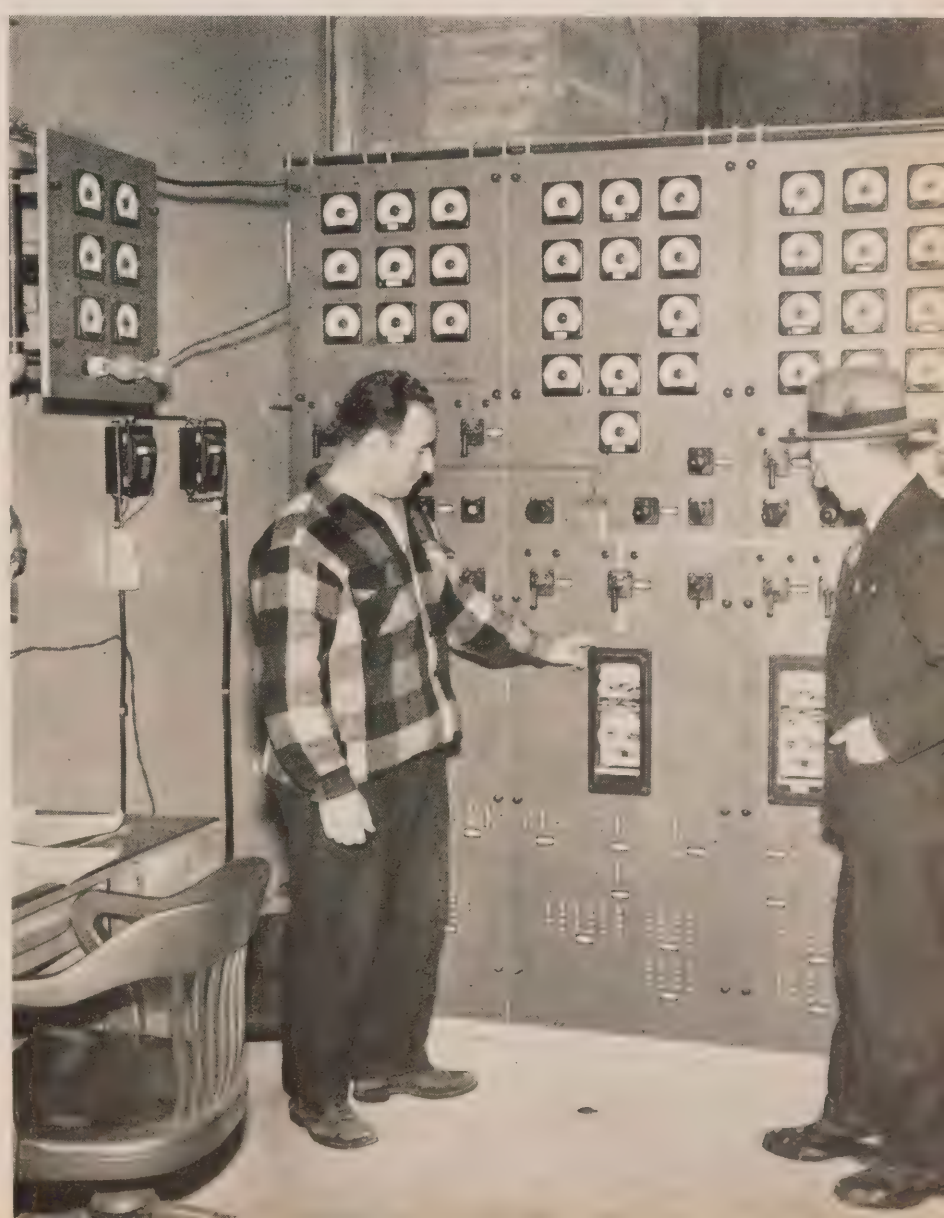
When the Chenaux project was first planned, it was realized that the Commission's engineering and construction staffs would be fully employed on other developments for a considerable time. H.G. Acres and Company, Limited, of Niagara Falls, consequently was retained to design the development which is being built by the Pentagon Construction Company, Limited, of Toronto and Montreal, under the supervision of Hydro engineers.

When completed, Chenaux will be operated primarily to relieve the heavy daytime load, particularly at time of system peaks. Storage of the Ottawa is such at this point that all eight units cannot normally be working continually at full capacity. Instead, four units will generate power during normal load periods, with the full complement available only at peak hours.

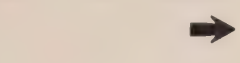
Chenaux is the second of three major Ottawa River projects undertaken by the Commission since the end of World War II. The first was the 480,000-horsepower Des Joachims station, 65 miles upstream from Chenaux; the third is the 192,000-kilowatt (256,000 hp.) La Cave project now under construction five miles north of Mattawa. Cost of Chenaux includes step-up transformation, but does not cover the expense of transmission facilities.



ADJUSTING GOVERNORS is no easy task! Here Les. Gorham, Machine Foreman, left, and Assistant Plant Superintendent C. R. Wilkins work on governors for No. 1 and No. 2 generators.



GORDON BRAYBROOK, left, Foreman Operator, and Plant Superintendent Ken Gemmell are checking temporary control board. Permanent control room is almost completed.



MIDLAND COMMISSION PLANS IMPROVEMENTS

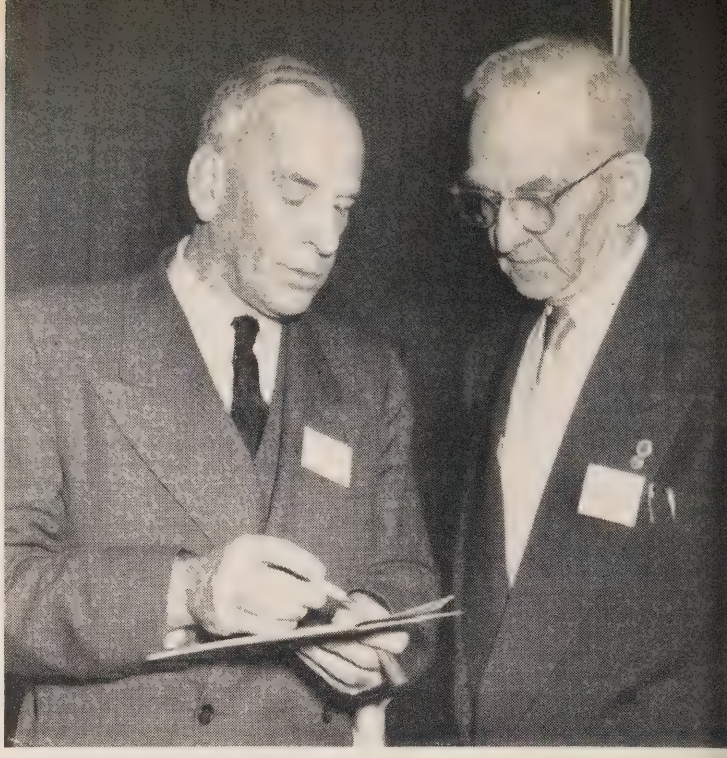
APPROXIMATELY $150,000 is to be spent rehabilitating the distribution system of the Midland Public Utilities Commission, it was announced recently.

The new $85,000 substation should be ready early next summer and will mean an increase from 22,000 to a 44,000-volt system. Over $15,000 is to be spent for a loop high tension lead-in to the substation which will permit a switch in case of trouble. At the same time, sufficient new transformer capacity and carrying lines are being added to provide for substantial growth of the community.

Heavy Agenda

Discussions At Annual Conference Of Area Managers Cover Wide Range

by
Harry M. Blake
Hydro News



A HOT shot for a cold motor! F. L. Mills, Superintendent of Production and Services, Central Garage, Islington, explains to H. Tideman, Barrie, operation of a new switch device for starting trucks in zero temperatures.

"WE should be proud of Hydro, and the people of Ontario should be proud of Hydro. We have nothing to apologize for. There is no other organization in the country which has been called upon to undertake such tremendous and responsible tasks. We should be proud of our engineers and of you men who are carrying on such important work in the field."

These words were addressed to Hydro Area Managers by Chairman Robert H. Saunders during the dinner recess at their annual conference in the King Edward Hotel, Toronto, February 1 and 2.

Recess is the appropriate word for it because the dinner hour was only a brief "breather" in a program packed with questionnaire inventories of almost every conceivable problem Area Managers and their staffs might be called upon to meet in the pursuance of their duties.

With H. D. Rothwell, Administrative Assistant—Regions, in the chair and calling upon various Area Managers to direct the discussions, more than fifty delegates were heard on an infinite variety of subjects connected with their work and its relation to the improvement of customer services.

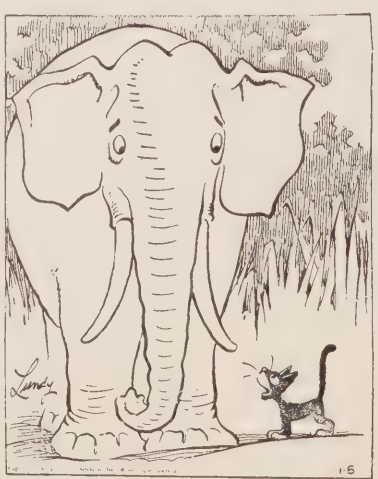
At intervals the horizons were broadened by Commission spokesmen, who outlined the work accomplished and lying ahead, sorted out phases of area activities requiring special attention, stressed the value of co-operation and team-play and interpreted rules and regulations.

Hydro Load Growth

In an opening address, A. W. Manby, Assistant General Manager—Administration, dealt briefly with the load situation. He pointed out that the load growth on the Hydro Systems in 1950 approximated 400,000 kilowatts or 25 percent over that of the previous year.

With the frequency standardization program in progress in Southern Ontario, and more than 4,000 miles of rural line construction authorized for 1951, voltage was becoming a real problem, both in the rural areas and the municipalities. In order to maintain satisfactory customer services, Area Managers must have a proper picture of conditions in their districts and periodic reading of voltages was a paramount necessity.

The Commission, Mr. Manby said, had decided to cut down on the increasing growth load at 25 cycles by setting up facilities in all the larger centres of Southern Ontario for the delivery of 60-cycle power to many industrial establishments in advance of the general change-over program. These facilities were being installed with all possible speed and would be available this summer.



"You may have the ivory, but you haven't got what it takes to make violin strings!"

Reliable Services Stressed

Following Mr. Manby, Hydro's General Manager and Chief Engineer, R. L. Hearn, pointed out that the Commission had brought into service in the last three or four years as much new power as had been added in the previous ten or fifteen years.

As Mr. Hearn continued, the duties of Area Managers were disclosed. They were not only responsible to the Commission with respect to electrical services in rural districts. They must also lend a helping hand to many municipalities which were not fully organized to operate without direction and supervision.

In addition, they must be prepared to co-operate with other well-established Hydro municipalities so that the pattern of Hydro services might present an unbroken mosaic from one end of Ontario to the other.

In conclusion, Mr. Hearn urged his auditors to increase in every way possible their knowledge of the Hydro System, to see to it that operations in their own areas were conducted with a high efficiency and to use their utmost endeavours to provide all classes of customers with reliable service.

With C. B. Carruthers, Area Manager, Stayner, and E. R. Adderman, Area Manager, St. Thomas, directing discussion in turn, several questions were raised with regard to the provision of permanent stores, line maintenance facilities and staff housing accommodation in various

areas of both Southern and Northern Ontario.

Stress was laid by D. I. Nattress, Regional Manager, Northwestern Region, on housing requirements at Atikokan and Fort Frances where Hydro power loads had greatly increased during the past year. Mr. Hearn promised consideration to these problems, providing arrangements at reasonable cost could be made.

"Hydro" Inventiveness

An innovation of F. L. Mills, Superintendent of Production and Service at the Central Garage, Islington, received general acclaim. There has been a good deal of trouble starting trucks in cold weather due to low storage battery voltage.

Mr. Mills has overcome this by a single-pole, double-throw switch in the ignition circuit. The coil is operated from a 6-volt "hot shot" dry cell, thus insuring proper voltage on the coil, irrespective of the storage battery voltage.

Another invention was brought to the attention of the Conference by C. E. Crease, Consumer Service Engineer. This was a combination outside meter base and weather-proof box in which a no-fuse breaker could be installed. Credit was given two Hydro wiring inspectors—F. E. Judd of Orillia and Ed. Brewer of Penetang for originating this device.

The value of helicopters in line inspection was stressed by T. J. Burgess, Line Maintenance Engineer. The Commission had now three of these machines in service, Mr. Burgess stated, covering main transmission lines in all parts of the province except the Northwestern Region, and arrangements were now being made for inspection patrols in that area. Helicopter control, the speaker claimed, did a better job and was more economical than the methods formerly employed.

Helicopters were ideal for spotting trouble on the line, thus ensuring a minimum of interruption to consumer services. A portable instrument had also been developed for spotting radio interference in rural areas. The device was already in use in three regions, supplementing the work in this field inaugurated by the Government of Canada.

Line-Clearing Picture

Chief Forester W. M. Grundy presented a report on the overall line-clearing picture, embodying a review of work performed since the Commission's reorganization in 1948 and recommendations regarding future requirements.

In 1948, according to the information at Mr. Grundy's disposal, the Commission had more than 39,000 miles of line in operation, involving the periodic treatment of approximately 1,678,000 trees. At July 31, 1950, there were approximately 47,000 miles of line and more than 2,080,000 trees. Between the Commission's reorganization in 1947 and mid-summer 1950 a total of close to 11,400 miles of line had been cleared and more than 421,500 trees treated. The cost had been slightly in excess of $1,539,000.

While the Chief Forester favored two-year line-clearing cycles, he believed that with the tremendous amount of work in immediate prospect a three-year cycle might be carried out temporarily with resumption of the two-year cycle when line construction eased off and a systematic tree-removal program could be inaugurated.

With R. Fisher, Area Manager, Cobourg, following L. B. Hulko, Area Manager, Port Arthur, in charge of proceedings, the afternoon sessions were devoted to accountancy problems.

Beauty and Power

"We are entering a new phase of material supply," Dr. O. Holden, Assistant General Manager—Engineering, told the Conference at the resumption of the regular sessions, on February 2.

"In the last six or eight months (due to the international situation) a definite change has set in and many of the materials we require are again hard to secure," he said.

Dr. Holden intimated that the Commission was now purchasing well ahead of requirements and suggested that Area Managers should make their requisitions to the Commission on a similar advanced basis.

Pointing out that with the bringing into service this fall of the La Cave development on the Ottawa River and the two steam-electric plants—the Richard L. Hearn Generating Station at Toronto and the J. Clark Keith Generating Station at Windsor—the first phase of Hydro's great expansion program would be completed, Dr. Holden went on to speak of the Niagara project.

The recent treaty between Canada and the United States had, he said, taken a different approach from other treaties with respect to the take of water from the Niagara River. In the former treaties while only a small portion of the river flow was made available for power purposes, assurance was provided that the flow permitted would be available 24 hours a day and 365 days a year. Under the new treaty, the amount of water that must go over the falls was stipu-



CUSTOMER PROBLEMS are being discussed by Art Knight, Clinton, (left) and N. E. Macpherson, Assistant Rural Service Engineer.



MONTY KAYE, Matheson, (centre), joins with H. Dunfield, P. McAdam, C. C. Cunningham and F. Archer in a good-humored baiting of Chief Accountant Gordon Honsberger.



C. B. CARRUTHERS, Stayner, right, appears to be making a little wager with E. E. Bowley, Welland, left. C. A. West, Dundas, and E. G. Bennett, Cayuga, were impartial on subject.

lated and the remaining water would be divided between the two countries for power purposes.

Thus, the power stations at Niagara would become run-of-the-river plants, depending upon the streamflow for the amount of water they would have the right to use. However, the amount of water stipulated to pass over the falls in the winter season was only half as great as that required to maintain the full scenic beauty of the falls during the summer tourist season, and it was during the winter season that the maximum production of Hydro plants would be needed to meet customer demand. There should be plenty of water available at that period of the year to satisfy the dependable maximum peak capacity of approximately 600,000 horsepower for which the Commission's new project would be geared.

While construction of the first phase of Hydro's Niagara project was being carried out, remedial works required to ensure proper distribution of flow over the brink of the falls will be undertaken under the International Joint Commission.

In this connection, Dr. Holden referred to two models which had been constructed and approved. One of these had been built by Hydro at Islington and the other is being built by the United States Corps of Engineers at Vicksburg, Mississippi. It is upon these two models that the remedial works will be based.

Human Equation Stressed

Taking as his subject "Career Planning," John Dibblee, Manager of Personnel, stressed the necessity of Area Managers taking a vital interest in the human equation and the development and training of their men. He suggested that this phase of an Area Manager's duties, while of the highest importance, was sometimes overlooked.

Customer Contacts

The importance of customer contacts by Area Managers was sketched into an overall picture of the manifold activities of the Consumer Service Division by its director, M. J. McHenry. He pointed out that the attitude assumed by Area Managers in dealing with the public must often be the basis upon which the consumer formed his opinion of Hydro. A spirit of goodfellowship and an understanding of the customer's problems were necessary. There was no customer who was not entitled to an explanation of Hydro operations which affected him and the reasons for carrying them out.

"A satisfied customer," said Mr. McHenry, "creates other satisfied customers." He added that, in a recent test, 97 percent of the complaints submitted were dropped when explanations were made.

Explanations satisfactory to customers, the speaker pointed out, must be based on adequate knowledge of the conditions affecting services, group or individual. Steps were being taken to ensure a more rapid dissemination of information among those concerned.

By this time Hydro Area Managers will have something both tangible and attractive to remind them of the goodwill contacts with customers stressed by Mr. McHenry. Towards the close of the final session, J. A. Blay, Manager of Promotion, announced that a new lamp display, featuring the 1,500-hour light designed to Hydro's special specifications, would be shipped to all area offices within two weeks.

Closing discussions were directed by E. E. Bowley, Area Manager, Welland, and C. D. MacDonald, Area Manager, Kitchener.

IN BACKGROUND, C. R. Hicks, Burlington, and Art West, Dundas, comment on proposed change in calendar to divide year into 13 months instead of 12. C. A. S. Silliphant, Elmira (back); A. C. Richardson, Uxbridge (front right), and Norman Belfrey, Walkerton study matter.



HELP WANTED

A town in Southwestern Ontario with a population of 7,500 requires a Professional Engineer, Electrical or Mechanical, with good electrical background and at lease five years' experience to take charge of the hydro, water and gas systems. The salary to start is $4,500 to $5,000 per year, depending on experience. Apply giving age, education and brief outline of past experience to Box 10, c/o The Editor, Hydro News, 620 University Avenue, Toronto.



GATHERING OF 900 members and guests of Association of Professional Engineers of Ontario at annual luncheon in Toronto witnessed presentation of Association's Gold Medal to General A. G. L. McNaughton, (inset, left) by Col. Le Roy Grant. He was third Canadian to receive award.

CANADIAN ENGINEERS LAUDED

"I know of no other group of men who have made such an outstanding contribution to the growth of Ontario than the Canadian engineers," said Hydro Chairman Robert H. Saunders when speaking at the 29th annual meeting of the Association of Professional Engineers of Ontario in Toronto recently when, on behalf of Hydro, he presented the Association with an oil painting of a Northern Ontario scene by Otto Grebze, an artist on the Commission's staff.

A highlight of the luncheon was the presentation of the Association's Gold Medal by Col. Le Roy Grant to General A.G.L. McNaughton, Commander of the Canadian forces overseas in the last war and an eminent Canadian professional engineer.

Col. Grant said that it was an honor to be able to present this award, given to professional engineers who had rendered outstanding service to Canada. "Only two other men have received such distinction," he went on, "and they are Trade Minister C.D. Howe in 1947 and Dr. C. R. Young, former director of the faculty of Applied Science at the University of Toronto, in 1948." Col. Grant said that the words embossed upon the medal, "Apply the forces of Nature to the services of man," typified the work of these men.

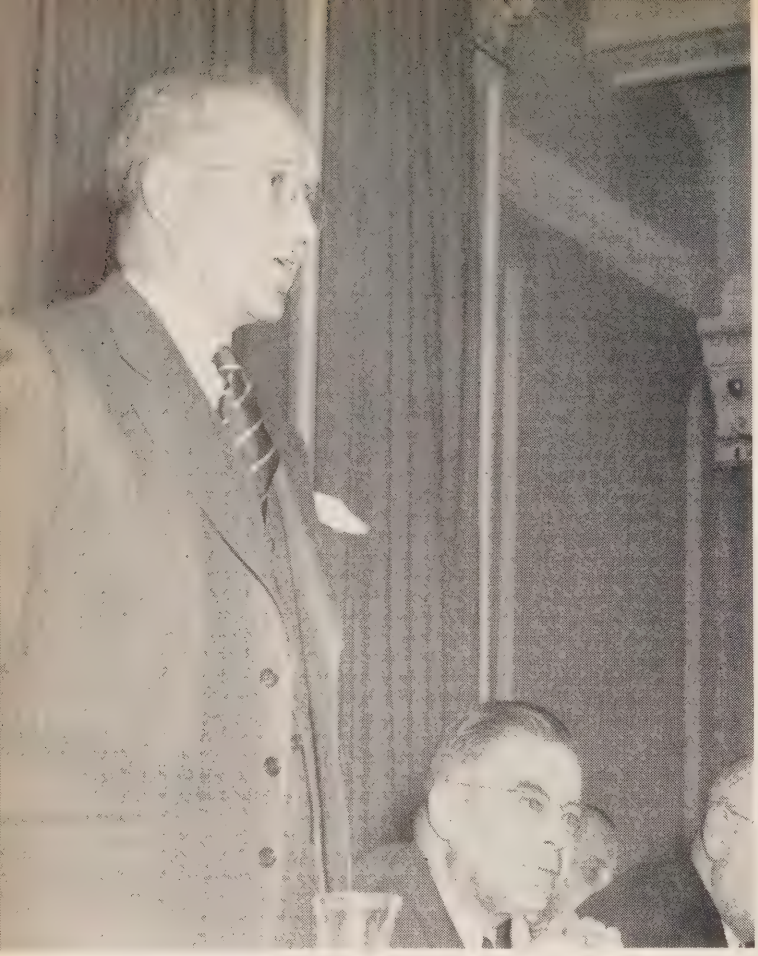
A gathering of approximately 900 members and guests who were present heard General McNaughton discuss the work of the International Joint Commission, of which he was recently appointed chairman.

At one point, the speaker expressed the belief that the development of the international section of the St. Lawrence for navigation and power now appeared to be coming near to realization.

Of the Niagara Diversion Treaty, General McNaughton had this to say: "Ontario has agreed to construct such works in Canada as may be decided upon. The Commission has set up an Engineering Board and the necessary engineering investigations are under way. Meanwhile Ontario has been made entirely free to proceed with the construction of the new works for power which will add eventually perhaps a million installed horsepower to the plants at Queeston."



OFFICERS FOR current year are, left to right, J. Herbert Smith, 2nd Vice-President; W. H. M. Laughlin, President; E. V. Buchanan, Past President, and O. D. Johnston, 1st Vice-Pres.



Cold War Creates Higher Demands

Power Resources Being Heavily Taxed Despite Ontario Hydro's Record-Breaking Expansion Program, W. Ross Strike, K.C. Tells No. 4 O.M.E.A. Delegates.

W. ROSS STRIKE, addressing delegates to District 4 O.M.E.A. warned his listeners that load growth, due in great part to effects of cold war, would soon absorb power derived from projects under construction at present.

DESPITE Hydro's record-breaking program of expansion, available power resources are likely to be heavily taxed to keep pace with demand over the next two or three years.

This was the prediction of W. Ross Strike, K.C., Second Vice-Chairman of the Commission, who addressed delegates of District 4 O.M.E.A. at their annual meeting in Toronto recently.

Projects currently under construction would naturally play a vital part in helping meet steadily mounting demands, Mr. Strike pointed out, but he warned his audience that the benefit from these new sources would soon be swallowed up by load growth.

He also called attention to the fact that superimposed upon the normal load growth were the effects of the cold war which were creating additional demands that would probably have to be borne for some years to come.

Speaking on Hydro's latest step to meet increasing phenomenal power demands, the speaker gave particulars of the new Sir Adam Beck No. 2 plant project which will add approximately 600,000 horsepower to the Commission's resources. He pointed out that camp facilities were nearly completed, and that orders had been placed for the six 105,000 horsepower turbines and for three of the six 80,000 kva generators.

Future Power Resources

Turning to the question of future power resources, Mr. Strike said that Hydro was most anxious that continued pressure be applied for development of the St. Lawrence. It might well be that this project would be the saviour of the province. If that potential power were not developed it might seriously impede the future economy of the province, the speaker declared.

Discussing progress of Hydro's Frequency Standardization program, Mr. Strike explained that the Commission was speeding up its activities on this project.

They had recently decided to turn standardization work in some municipalities over to the local utilities who, in turn, would employ local contractors and this should, he felt, help immeasur-



REGISTRATION PROVIDES familiar opening scene for District 4 meeting. Left to right— G. F. Pownall, Mimico; G. D. Pattison, Toronto Township; W. G. Jackson, New Toronto; A. H. Hamilton, Forest Hill; G. F. Hutcheson, Huntsville. At registration desk — Douglas Moffitt, Toronto, (left), Mel Gough, East York.

➔



PAUSE BETWEEN registration and opening of meeting gives Hydro photographer opportunity to 'freeze' group of delegates. Included in the above picture are: Fred W. Peasnell, Toronto Hydro; E. W. Binkley, Georgetown; A. G. Farnell, Georgetown; H. N. Harrison, Mimico; Harold Cleave, and G. W. McCallum, Georgetown; Jim Gray, North York; Dave Beattie, Toronto; H. B. Little, and John Collingwood Reade, Toronto.

ably in advancing the pace of the program.

Summing up Ontario Hydro's activities during the past year, the speaker had warm praise for the work of engineers and construction men who were playing their part to the full in the race for more and more power.

He also paid tribute to the Commission's financiers and accountants whom he described as "responsible for the complete integrity of enterprise that Hydro represented."

General Business

The business session of the meeting was opened by District 4 President, A. O. Leslie, who welcomed the delegates and turned the meeting over to Secretary-Treasurer Albert G. Jennings who read the minutes of last year's meeting.

The latter named a nominating committee of three who would recommend officers for the current year. The auditor's report, which showed District 4 to be in good financial shape, was also read by Mr. Jennings and was adopted.

D. P. Cliff, President of the O.M.E.A., said that he was pleased to hear of the district's successful year. He noted that there was a lack of resolutions at the district meetings. Although this would probably reflect on the annual convention, he said it seemed a definite indication of a happy Hydro family.

The O.M.E.A. members, free so far of power restrictions, were well satisfied with present conditions, Mr. Cliff stated, and the strong fellowship that existed in the association was due, he felt, to the fine example set by Ontario Hydro and its Chairman, Robert H. Saunders.

During the question period Mr. Jennings told the meeting that the executive had previously met and decided that the question of low voltages being delivered to areas surrounding Toronto should be discussed.

E. R. Lawler, Hydro's Toronto Region Manager, said that he had not received any complaints about low voltage, but that he would bring the subject before the Commission. He felt sure Hydro would be willing to rectify such a problem.

Mr. Jennings also mentioned that the executive had discussed the problem of charging for emergency calls and wished this question to be placed before the meeting.

Several delegates explained the procedure in their areas, and it was finally suggested and carried that the new executive meet and further examine this matter.

The question of standardizing range switches was also raised during this session. Warren P. Bolton of the Windsor Utilities Commission was asked to report on this subject and he stated that he hoped the answer would soon be finalized. He added that a progress report from District 8 would be submitted at the annual convention.

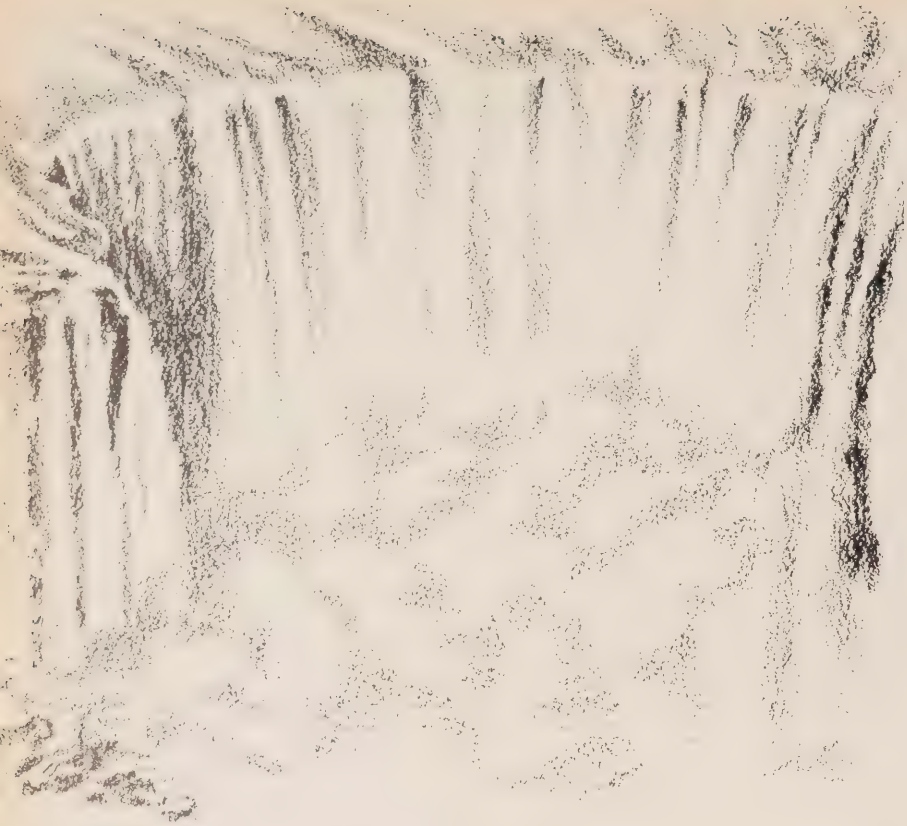
Closing the business session, Mr. Leslie introduced M. J. McHenry, Director of Hydro's Consumer Service Division.

Mr. McHenry called for close co operation by the municipalities in examining their local systems and, in view

(Continued on page 34)



DISTRICT NO. 4 Officers for 1951. Left to right — Albert G. Jennings, Secretary-Treasurer; Loftus H. Reid, Past President; A. O. Leslie, President; W. P. Dale, Vice-President; Elmer Wright and Alex. Schaefer, Directors. W. Grant, Director, was absent.



NIAGARA Junior

Realistic Model Built By Hydro To Aid Engineering Studies

by C. G. W. MacIntosh
Hydro News

NIAGARA Falls in all their cascading glory can now be seen at Ontario Hydro's Islington Service Centre near Toronto.

This does not mean that there has been any waving of magic wands resulting in the Falls being moved en block, and appearing at a new location on the map. Any magic involved — and one cannot help feeling there is after viewing the Islington centre prototype — can be attributed to the uncanny skill of the Commission's engineers and technicians.

At Islington they have built a model, measuring approximately 95 feet by 37 feet, showing, to scale, the upper rapids, the river contours and both the American and Canadian Falls.

The completed work bears an almost breath-taking resemblance to the actual spectacle that is viewed by hundreds of thousands of visitors and honeymooners at Niagara Falls every year.

It was built for the purpose of making detailed engineering studies to ascertain the most suitable location for the intake at the new Sir Adam Beck-Niagara Generating Station No. 2 and to determine the necessary remedial works required to preserve the scenic beauty of the Falls while, at the same time, permitting the diversion of additional water for the generation of more power.

Before building the realistic model — a task which occupied two months of exacting work — soundings of the depth of the upper Niagara River to the brink of both cataracts were taken. Soundings of the river from the submerged weir to the tip of Buckhorn at the lower end

AERIAL VIEW OF NIAGARA'S HORSESHOE AND AMERICAN CATARACTS "IN THE FLESH".



of Grand Island were made by Hydro's engineering and survey staffs using an echo sounder — a device which emits supersonic waves and translates the time of their reflection from the bottom of the river into terms of the depth. Below the weir, U.S. Army engineers used a helicopter for soundings and also "ky-toons," a type of balloon from which a sounding weight was lowered. The results of these tests contributed very materially to the detailed accuracy of the model.

About 550 tons of sand, 9,000 board feet of plywood and 25 cubic yards of concrete for the surface were used while a concrete wall, surrounding the entire structure, holds the water.

Up to one thousand five hundred gallons of water per minute are pumped through the model by means of a self circulating water system. In all, more than 30,000 gallons are required and it takes about 20 minutes for this quantity to make a complete circulation.

The model has been built to a distorted scale. The horizontal is 250 feet to one foot, and the vertical is 50 feet to one foot. The distortion is necessary to provide sufficient depth in the model to ensure a flow pattern similar to the actual river and also to enable depths to be measured accurately. Nevertheless, it has a most realistic appearance, and the water plunging down the upper rapids and over the two falls duplicates the actual phenomenon. Approximately 91 percent of the water passes over the Horseshoe Falls in the model and 9 per-

(Continued on page 34)



AMERICAN ENGINEERS visited Islington Service Centre to inspect the Niagara model. Getting data from J. B. Bryce, left, and E. T. Ireson, are N. Marr, Dominion Water Resources Division; S. B. Hunt, Chief of Corps, U.S. Army Engineers, Buffalo, and E. B. Lipscomb, Vicksburg, Miss.

HYDRO ENGINEERS Keith Henry, left, and J. B. Bryce, discuss the recently-finished scale model of the Falls and Upper Niagara River.



COLD WAR

(Continued from page 31)

of continued load growth, he also suggested that municipalities inaugurate an annual examination of all distribution facilities.

He asked for particular attention from areas which will soon have frequency standardization and emphasized the importance of systems in these areas being in good order at the time of changeover.

Referring to the costing of power, Mr. McHenry stated that the new method would be in operation this year. The complexity of costing had been considerably increased owing to the tremendous growth in the Hydro network during the past few years, Mr. McHenry explained.

Some municipalities would have lower costs while others would have an increase, he pointed out, but the Commission felt that the new method would be most equitable under present-day conditions.

Election of Officers

Winding up the meeting with a vote of thanks to the speakers and members for an interesting discussion panel, Mr. Leslie called upon the nominating committee for their recommendations. The following officers were elected for 1951: President, A. O. Leslie, Scarborough; Past-President, Loftus H. Reid, Toronto; Vice-President, W. P. Dale, Brampton; Secretary-Treasurer, Albert G. Jennings, East York Hydro; Directors, Alex. Schaefer, Bolton; Elmer Wright, Toronto Twp. and E. W. Grant, New Toronto.

The meeting was then closed and members later assembled for a dinner as guests of the Toronto Hydro-Electric System.

In addition to the main speaker, Mr. Strike, short addresses were given by: Loftus H. Reid, Chairman of the Toronto Hydro-Electric System; A. W. Manby, Assistant General Manager, Administration, Ontario Hydro; Albert G. Jennings, Chairman of East York Township Hydro-Electric Commission; Warren P. Bolton, Windsor Utilities—Hydro Division—Commissioner; and D. P. Cliff, O.M.E.A. President.

COMMISSIONER WRIGHT

Auburn Wright, Commissioner on the Erin Hydro-Electric Commission, was born in Grey County and attended school there, and later in Bruce County. He has his own creamery business and is a member of the Masonic Order and the Lion's Club.

His hobbies are horses, baseball and dancing. Mr. Wright is married and has one son and three daughters.



"WE BOUGHT THIS PORTABLE PORCH LIGHT SO WE COULD USE THAT SOCKET UP THERE FOR FOUR MORE OUTLETS!"

NIAGARA JUNIOR

(Continued from page 33)

cent over the American Falls as it does at Niagara.

Intakes of the Canadian Niagara Power plant, the Commission's Toronto Power plant, Ontario Power plant and the Sir Adam Beck-Niagara Generating Station No. 1 are duplicated on the model. The buildings of three of these power plants are reproduced along the Canadian shoreline. On the American side the intakes of the Niagara Falls Power Company's two generating stations are duplicated, even to the dredged channel for the Schoellkoff plant.

American Army engineers are at present engaged upon the task of building a similar model and the pooling of information is designed to assure the construction of the most efficient type of remedial works.

Just recently, members of the United States Army Corps of Engineers, from Buffalo, N.Y., and Vicksburg, Mississippi, visited Ontario Hydro's Islington Service Centre to inspect the Commission's large engineering model. The inspection trip followed a similar visit by Hydro Chairman Robert H. Saunders to Vicksburg where he viewed the U.S. model.

The visitors were keenly impressed with what they saw, and expressed admiration for the excellent job that has been done in constructing the Hydro model. They maintained that the details which they learned during this inspection trip would help to expedite the work on the U.S. project, now nearing completion.

Both models will be used extensively by both Canadian and U.S. engineers over the next few years while studying water diversions for power purposes under the new Niagara treaty passed last year. This treaty, inspired by public sentiment, carefully guards against any impairment of the spectacular grandeur of Niagara Falls which is an attraction to hundreds of thousands of visitors every year.

CONTINUING STABILITY

(Continued from page 14)

Hadden, William Johnston, Vincent Lavoie, Fred W. Peasnell, Herbert C. Powell, Carl E. Schwenger, Asa W. J. Stewart.

Joining the Quarter Century Club last year were: Jonathan Roe, Stanley Wedgewood, Vernon E. Murray, Charles Ward, A. Percy Routley, J. Bosworth Staniland, William Alexander, Mrs. Ada Paradine, Henry T. Murphy, Robert Rae, William A. White, William C. Ewings, Miss Flora E. Trinnell, James Manson, Miss Maude Hunter, Byron H. Crook, Thomas L. Campbell, William D. Barclay, Charles H. Taylor, Alexander Barrow, Miss Greta F. Connell, William Oxley.

FORTY YEARS' SERVICE

(Continued from page 21)

whose knowledge of the classics seems as boundless as his knowledge of the intricacies of engineering.

The theme of their tributes varied at times, but they all struck one common note, best expressed in the declaration of R. W. D. Lewis, K.C., who presided during the complimentary dinner tendered by the London P.U.C.:

"Mr. Buchanan's 40 years' service have been years of active service and not just 40 years with the P.U.C."

In his turn, Mr. Buchanan paid tribute to his associates on the London Commission which has jurisdiction over Hydro, waterworks, parks and playgrounds in the Western Ontario city as well as handling the operation of the London and Port Stanley Railway.

In referring to his lengthy association with the late Sir Adam Beck, "Father of Hydro," Mr. Buchanan said: "All Sir Adam Beck was concerned about was translating the potential power of our streams into better living conditions for the people of this great province."

Classified Ads

FOR SALE

One Horizontal Type Generator C.G.E. Type ATB Form S Class 24, 2300 Volts 201 Amps. 3 phase 60 cycles 300 RPM with field rheostat.

One Horizontal Type D.C. Generator Shunt Wound C.G.E. Type C 1 Class 6-25-1100 Form B 125 volts 200 amps.

Interested parties write Mr. J. M. Whitteker, Secretary-Treasurer or contact Mr. D. J. Stitt, Superintendent, Morrisburg Hydro-Electric Commission.







Galt On The Beam

CO-OPERATING with a leading radio manufacturer, Galt Public Utilities Commission recently installed and tested a new radio-telephone system.

The new system, the first to come off the production line, features new type Very High Frequency equipment which incorporates a narrow-band receiver and operates at 157.23 megacycles.

This narrow-band operation helps to reduce possible interference from nearby radio systems.

The top picture shows Mr. McNair, local dealer for the manufacturer, putting finishing touches to a truck installation. The compact set is conveniently located behind the driving seat. The centre picture shows J. E. Teckoe, former Galt P.U.C. Manager, relaying instructions to one of the three radio-equipped trucks. Bottom picture shows Galt Line Superintendent Jack Rogers receiving and replying to instructions from the transmitter situated in the main building of the local commission.

ERIN JOINS

(Continued from page 12)

by Ontario Hydro from 1944 until 1950, when a cost contract became effective. At that time, the Erin Hydro-Electric Commission was formed and the following members were installed for 1951: Joseph Musgrove, Chairman; D. S. Leitch and Auburn Wright, Commissioners, and Mrs. J. A. MacKenzie as Secretary.

According to the records, there are 218 domestic, 57 commercial and 3 power customers. In 1945 the average cost per kilowatthour was 3.329 cents, and the latest available figures now show it is down to 2.462 cents per kilowatthour.

The residents of this flourishing centre can be justifiably proud of their attractive community and the visitor is always very pleased to "Come Back to Erin."

ST. LAWRENCE

(Continued from page 9)

requirements for the next year indicated an "amazing" era of prosperity for Ontario, Mr. Saunders declared.

"At the present time we anticipate an increase in load, throughout the province by December, 1951, compared with 1950, of 286,600 kilowatts or 382,133 horsepower — an overall increase of 10.5 percent,"

Barring unforeseen circumstances, Hydro expects that this challenge could be met, the speaker asserted.

Increased Resources

"We contemplate augmenting our resources this year, compared with December, 1950, by over 680,000 horsepower," he told his audience.

This would increase Hydro's resources from 3,660,300 horsepower to 4,340,000 horsepower.

"In 1952, we hope to further increase these resources by 368,498 horsepower up to 4,708,972 horsepower."

It was anticipated that power from the Sir Adam Beck-Niagara Generating Station No. 2, now under construction, would be available by the end of 1953 or early in 1954.

"This we believe, will take care of our needs until the year 1956 or 1957."

What of the years beyond 1956 or 1957?

"The answer depends on whether or not we get the St. Lawrence with its 1,100,000 horsepower of low-cost power for Ontario," Mr. Saunder declared.

Urging delegates to pass on their views to their federal and provincial government representatives "to let them know that you are behind them," the Hydro Chairman asserted that "we must not relax our efforts to get the St. Lawrence power. Let us get on with the job of harnessing the waters of this great river."

Afternoon Session

During the afternoon session, with President Warren P. Bolton in the chair, Hydro's Director of Consumer Service, M. J. McHenry, spoke on matters of common interest to the Commission and municipal systems.

At the outset of his address, Mr. McHenry stressed the importance of a constant interchange of information between the municipalities and the H.E.P.C. In this connection, he urged municipal commissions to advise the Commission of any anticipated increases in load at the earliest possible date. This, Mr. McHenry pointed out, would enable Hydro to estimate Ontario's future power requirements more accurately.

Referring to the present period of expansion, Mr. McHenry emphasized the necessity of keeping municipal facilities and equipment in good condition. At the same time, he warned against allowing overloading of systems and advised local commissions to keep this aspect of their operations under continual scrutiny in order to avoid breakdowns and interruptions in service to their customers.

This was particularly necessary, the speaker continued, in municipalities where frequency standardization was being undertaken. A good, well-balanced distribution system was necessary for satisfactory operation at 60 cycles.

"Therefore, if all 25-cycle municipalities maintain a high standard of distribution, they are reasonably certain that there will be a minimum of trouble after they are changed over," he stated.

New Costing Method

Discussing the new method of billing municipalities for power being introduced this year, Mr. McHenry said that the new system had been developed after several years of exhaustive study.

"While the old system was quite adequate for many years, with a relatively simple transmission network, we believe that the new method permits a more equitable distribution of costs to each municipality when the changed conditions of a complicated and extensive network are considered," he declared.

Switch Standardization

Concluding the one-day meeting, was an address by Fred Rhoads, Merchandising Manager of Windsor Utilities Commission on "Switch Standardization."

During his remarks, Mr. Rhoads reviewed the history of a campaign to have stove manufacturers use standard-type switches.

Standardization would simplify the matter of obtaining replacement switches for older models of stoves, Mr. Rhoads claimed, with a consequent reduction in service costs.

The speaker also advocated the introduction of standard oven thermostats. He urged delegates to lend their assistance in this drive to establish standard patterns for these articles.

York Hydro Building Awarded Design Prize

YORK Township Hydro System's new stores and garage building has been declared the winner of the Massey Foundation Silver Medal for excellence in design for commercial buildings completed in Canada between 1945 and 1950, a category including shops, warehouses, service station, garages, etc.

The building, designed by John B. Parkin Associates, Toronto architects, took the senior prize in that classification in competition with designs entered by 36 other Canadian firms. The medal was presented by Canada's Governor-General, Viscount Alexander, at an exhibition held in the National Gallery of Canada recently.

The Toronto firm received five of nine first prizes awarded for designs for hospitals, schools, factories, churches and commercial buildings.

The new stores and garage at York includes meter, repair and dispatch rooms. It was constructed at a cost of 40 cents a cubic foot, or $154,000. Most buildings with similar amenities cost between 80 cents and $1.50 a cubic-foot, say the designers. Also, worthy of note is the fact the building was built without extras or variation orders to the original contract.

J. C. Parkin, a partner in the firm of architects, in a letter to H. R. McClymont, General Manager of York Township Hydro, said:

"We feel that much of the success of the design . . . is due to the straightforward list of requirements presented to us before we even lifted a pencil, thus making our task much easier . . ."

Contractors were Finley W. McLachlan Ltd., of Toronto.

ERIN'S REEVE

A native of Erin, D. Stanley Leitch, Commissioner of the Erin Hydro-Electric Commission, has had considerable municipal experience, having served as Reeve from 1937 to 1944. He has again been elected Reeve for 1951.

During business hours he is engaged as a dealer for the Massey Harris Company. His special interests are checkers, cards, dancing, hockey and baseball.

Maybe You'll Laugh Too!



A father cannibal was recently overheard lecturing his son: "How many times must I tell you not to speak when you have someone in your mouth!"

One Toronto policeman has his own methods with traffic offenders. Seeing a motorist drive past a red light, he waved him to the curb, walked over and handed the man his pistol.
"Hey, bud," he said. "Use this. It's quicker."

"Drinking makes you look beautiful!"
"I haven't been drinking."
"No, but I have."

Lord bless the paper clip. It and the safety pin are all that are holding civilization together.

Never brag about your ancestors coming over on the Mayflower; the immigration laws weren't as strict in those days!

Little John's mother looked down at him very sweetly. "Which would you rather have, John, a baby brother or a baby sister?" she asked.
John thought for a moment and then answered, "If it's all the same to you, Mama, I'll take a pony."

Doctors tell you drinking is bad for you, but have you noticed that you see a lot more old drunks than old doctors?

Sign in Beauty Parlor window: Don't whistle at the girls leaving here . . . . it may be your grandmother!

An eminent cleric was approached by an agonized lad who had been hired as a "junior executive" at $15.00 per week.
"Doctor," asked the anxious chap, "can I lead a good Christian life in this city on $15 a week?"
"My boy," was the soothing reply, "that's all you can do."

She was born on her parents' wooden anniversary so they called her "Peg."

"It says here in the paper about a 'stoic' — what's them things?"

"Gee kid yer dumb — a 'stoic' is de boid what brings de babies."

If you could see yourself as others see you, you couldn't believe your eyes.

Civilization: a scheme of things cooked up by women to make men work for them.

Some boys want to live to a ripe old age — others buy motorcycles.

"He is intolerable, but that's his only fault."

Employee to manager: 'This is your last opportunity to raise my salary. Three other firms are after me."
What firms?"
'Gas, electric and coal, sir."

Sign on a heavy transport truck: "This truck stops for crossroads, railroads, blondes and brunettes. For redheads it will even back up 50 feet."

He: "These marks on my nose were made by glasses."
She: "How many glasses."

Assistant Director: "Mills wants $600 for playing the part of an Indian in our new film."
Director: "Offer him $300. Tell him it's only a half-breed."

Observation by radio star: "The human brain is a wonderful thing. It starts working the moment you are born, and never stops until you stand up to speak in public."



"This bulb is good, John."

—REPRINTED FROM COSMOPOLITAN

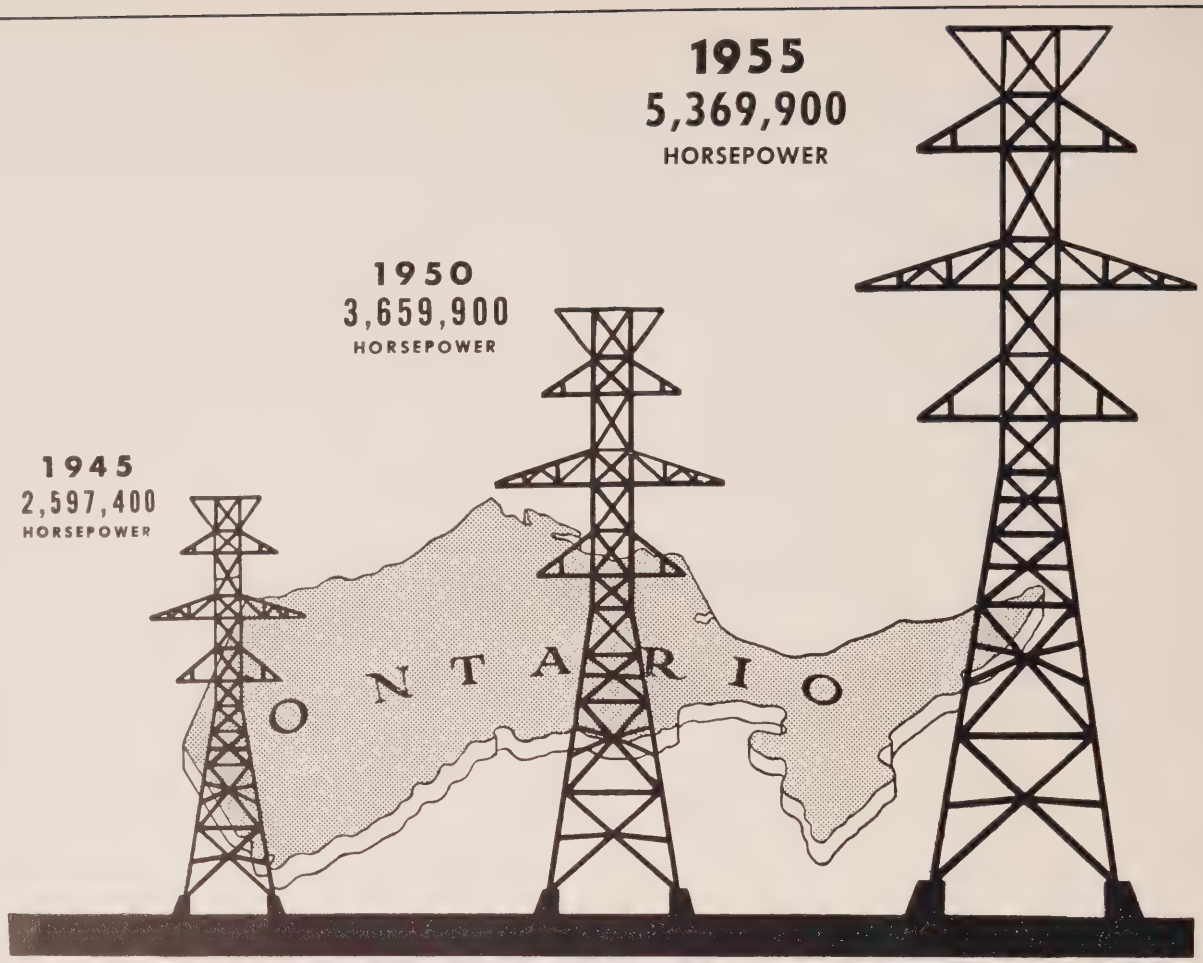

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HYDRO News



"SAP'S RUNNIN'"

VOL. 38 MARCH, 1951 NUMBER 3



HYDRO POWER SUPPLY MORE THAN DOUBLED

Ontario Hydro has tremendously increased the scope of its service to the Province since 1945. Six new generating stations have been brought into production and two stations expanded in that time, bringing the Commission's dependable peak capacity (generated and purchased power) to 3,659,900 horsepower in December 1950.

By December 1952, three more generating stations will have been brought into production bringing the Commission's dependable peak capacity to 4,708,900 horsepower. By December 1955 another new power development will have raised dependable peak capacity to 5,369,900 horsepower—more than twice the dependable peak of 2,597,400 horsepower in December 1945.

Ontario Hydro is, we believe, doing its part in meeting the expanding industrialization of the Province.

More Power for Ontario

Generating Stations	Installed Horsepower	Generating Stations	Installed Horsepower
De Cew Extension	76,400	Pine Portage	80,000
Ear Falls Extension	8,000	George W. Rayner	56,000
Stewartville	84,500	J. Clark Keith (Steam)	240,000
Aguasabon	53,600	Richard L. Hearn (Steam)	536,000
Des Joachims	480,000	Otto Holden	256,000
Chenaux	160,000	Sir Adam Beck—Niagara No. 2	600,000

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

HYDRO News

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 UNIVERSITY AVENUE, TORONTO

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SUBSCRIPTION: $2.00 PER YEAR

COVER SHOTS

DEDICATED to that wonderful season—Spring—the photo on this month's front cover was taken by Hydro Photographer E. A. Johnston a few miles north of Toronto—on the Maple Road appropriately enough! Equally spring-like is the back cover photo which depicts the "spring freshet" at its height.

Volume 38 Number 3

March, 1951

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Convention Impressions



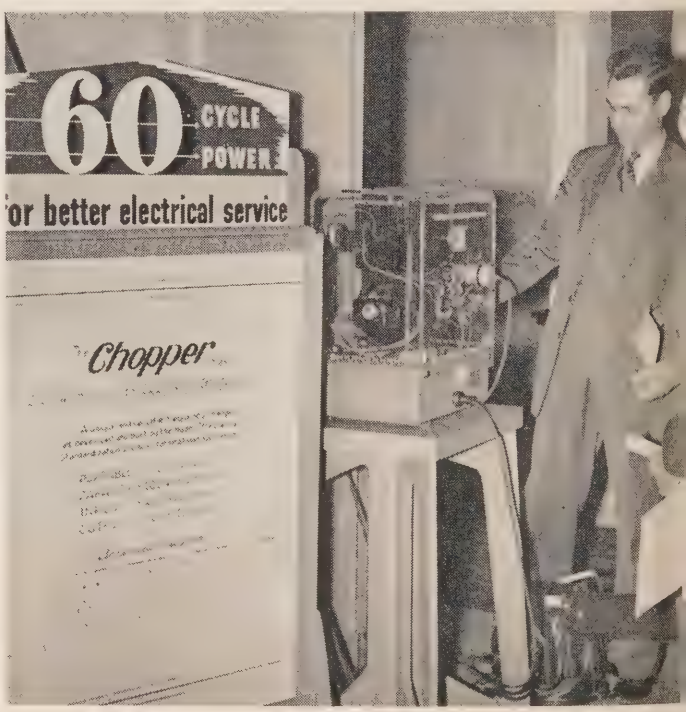
DELEGATES AT this year's convention showed keen interest in various Hydro displays. Alfred Edmonds, Swansea Hydro, and Adam Bell, Toronto Hydro-Electric System examine Research Division reports.



"WHERE DID YOU get that tie?" W. G. Long, Secretary, Kingsvill P.U.C., centre, and W. Poulter, Chairman, Cottam Hydro, ask C. W King, youthful Superintendent, Dresden Hydro-Electric Commission



DURING CONVENTION, Delhi delegates J. E. Hanselman, Archie Carter, Chairman C. M. Kramer and L. J. Passmore, Manager, discussed local advertising with Arthur Hardy, Hydro Promotion Dept.



IN THE Frequency Standardization section of exhibit, Jack Norma F.S.D., demonstrates operation of frequency changer unit for E. Barrington, Toronto, and Fred Schaefer, Secretary, Tavistock P.U.

Albert Jennings

ONE of the most beloved and highly respected members of the Hydro Family has been removed by the death of Albert Jennings who was known as "The Father of Hydro in East York," and who was Chairman of the East York Hydro-Electric Commission with which he had been identified since its inception in 1926.

He will be long remembered by all who came in contact with him. It would be no exaggeration to say that he had, at one time or another, visited practically every Hydro community in Ontario. Albert lived for Hydro and he was a familiar figure at all Hydro conventions. Indeed he attended the recent O.M.E.A.-A.M.E.U. convention in Toronto despite the fact that he was a very sick man. On the last day of the convention, he became critically ill and had to be rushed to hospital where he died a few days later.



There are many who knew Albert as one of Hydro's "Three Musketeers," the other members of that trio being Jack Pattison and "Sandy" Moors of Fort William.

Albert's quiet sense of humor and his amazing dexterity in performing unique tricks with string, coins and other articles have entertained and intrigued many groups of Hydro folk during recess periods at conventions.

Albert, who was 74, brought with him from his native London, an English accent, a sense of fair play and a natural ability for getting things done.

Back in 1911, it was Albert Jennings who headed a committee interested in bringing Hydro to the Yorks. The efforts of this group were ultimately successful and East York received its first electrical service in 1913. The township took over the management of its own affairs in 1925 and the following year a local Hydro Commission was established and Mr. Jennings was named as chairman—a position he had occupied for most of the time since then.

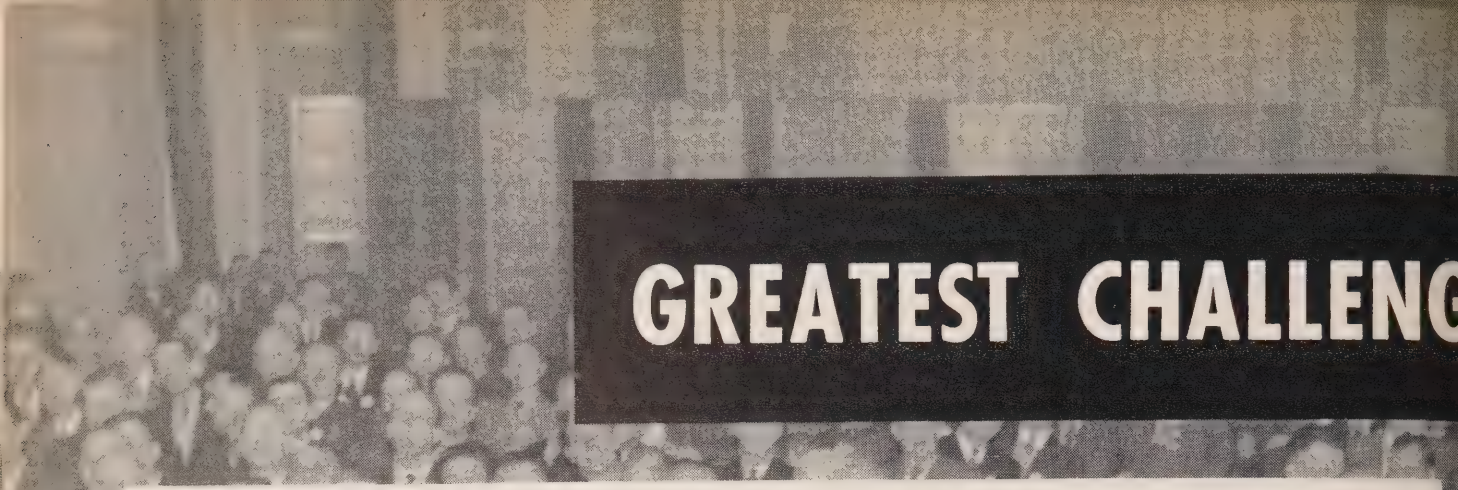
He was credited with the achievement of making the East York Hydro-Electric Commission free of debt in 1945; five years before maturity of the debentures issued to pay for the Hydro assets obtained from Toronto in 1926. Today the assets of the East York Commission are estimated at over $1,600,000.

It is very fitting that the $125,000 Hydro Building, now under construction in East York, will bear the name of "Albert Jennings Memorial Building."

Before coming to Canada and becoming a postal employee, Albert had served in the First World War with the Imperial Army.

During his municipal career, he served as a School Trustee for 9 years, while he also held the position of Secretary of District No. 4 O.M.E.A. for several years. He is survived by two daughters and a son.

Hydro News joins with all members of the Hydro Family in paying sincere and warm tribute to the memory of a very fine gentleman who served his community faithfully and well.



GREATEST CHALLENG

Hydro Chairman Announces Rebate of $3,342,903 to Ontario Municipalities

"IN 1950 your Hydro successfully met the tremendous challenge of a rearmament program, the like of which has never been experienced by any other organization in Canada."

With these words, Hydro Chairman Robert H. Saunders prefaced an all-embracing review of the achievements of the Commission in the past year at a joint meeting of the O.M.E.A. and A.M.E.U. during their recent annual convention at the Royal York Hotel, Toronto.

In lean, clipped phrases, Mr. Saunders ranged in orderly sequence through the whole gamut of Hydro activities. It was a serious record of work accomplished and difficulties overcome, but now and then the Chairman's features were lighted by an approving smile as he turned to this or that engineer with a word of high commendation.

New Problem Presented

This was the first picture:

By midsummer of last year the impact of Hydro's vast and accelerated construction program was being reflected in such increasing measure in the improved power supply situation that the Commission anticipated it could meet the power requirements of the province during the fall and winter without recourse to any of the restrictive measures of previous years. It looked for a moment as if there might be a return to those dimly-remembered halcyon periods of the past when the onus passed from the men engaged in the production of power to those who were entrusted with its distribution and marketing.

Then, like a bolt from the blue, came the Korean war, with increased demands upon Canadian industry.

In June, the Commission was meeting, in comparatively easy stride, peak demands running seven percent higher than those of the previous year. By the end of July, however, the increase was 12 percent. In August the demand was approximately 134,500 kilowatts higher than in July and nearly 16 percent higher than for August, 1949.

Mounting from month to month in December, 1950, there was an increase of more than 373,800 kilowatts, or 501,000 horsepower, over the primary peak demand in December, 1949. And there was no relief in demand until the second week in February of this year. Contrary to the usual seasonal decline, primary power demands soared to new high records during January on the Southern Ontario System.

Meeting The Situation

How was this situation met?

"The year 1950," said Mr. Saunders, "will be remembered for the great spirit of co-operation evident on every hand; co-operation between the Governments of Ontario, Canada and the United States in bringing into being the new Niagara Diversion Treaty; co-operation between the Governments of Ontario and Canada in so quickly allowing your Hydro to use additional water permitted by the treaty; co-operation extended to the Ontario Hydro by the members and staff of the municipal commissions, members of your two great and important organizations; the friendly response and co-operation of our consumers on the farm, in the cities, towns, villages and in office and factory in saving highly essential electric power; and last, but by no means least, the co-operation of a kindly Providence in providing water in the right places. This co-operation extended to us so willingly allowed us to meet the challenges of 1950 without cutoffs or restrictions in firm power deliveries."

Continuing, Chairman Saunders told how "through the highly efficient work of our engineers and staff" four new generating stations and five thermal plants had been brought into service.

At the end of last year, seven of the eight units at Des Joachims, with a combined capacity of 315,000 kilowatts were in operation. Two of the eight units at Chenaux, with a rated capacity of 30,000 kilowatts, were in service. These were plants on the Ottawa River, serving Southern Ontario.

In the North, the George W. Rayner Generating Station on the Mississagi River, with its capacity of 42,000 kilowatts, was in full service, as also Pine Portage on the Nipigon River with its present capacity of 60,000 kilowatts. Including the thermal installations, these new services represented an additional capacity of 467,350 kilowatts or 623,100 horsepower.

"In December, 1950," Mr. Saunders pointed out, "the dependable peak capacity of the three Hydro systems—Southern Ontario, Thunder Bay and the Northern Ontario Properties—rose to 2,730,300 kilowatts (3,659,920 hp), an increase over that of December, 1949, of 448,100 kilowatts (600,670 hp), or 19.6 percent."

Load Growth

Dealing with load growth, Chairman Saunders pointed out that it reflected not only the highly accelerated production of essential defence materials but also the phenomenal increase in industrial, commercial, domestic and rural demands for power.

In the Southern Ontario System during

HYDRO'S HISTORY

a maximum 20-minute peak, primary demands registered a new record of 2,362,030 kilowatts, a 17.4 percent increase over the previous year's top figure of 2,011,245 kilowatts.

The Thunder Bay System primary demand for the month was 182,646 kilowatts as compared with 164,085 kilowatts for January, 1950, or an increase of 11.3 percent. Likewise, the Northern Ontario Properties showed an increase of 19.3 percent over a corresponding period last year, with 253,519 kilowatts as against 212,426 kilowatts.

Power Output

Total power generated and purchased by the Commission during January, 1951, also remained high for all three systems. The total of 2,204,700 kilowatts generated and purchased for distribution and sale in the Southern Ontario System advanced 19 percent over the January, 1950, output of 1,852,060 kilowatts.

An increase of 32 percent was represented in the total of 223,646 kilowatts in January this year for the Thunder Bay System as compared with 169,485 kilowatts recorded for the corresponding period in the previous year.

A new record of 281,574 kilowatts was reported for the power generated and purchased for distribution and sale in the Northern Ontario Properties in January, 1951. This was an increase of 30.4 percent over the 215,880 kilowatts for January, 1950.

Construction Program

Hydro's Chairman went on to quote figures revealing the magnitude of the present construction program. It was estimated to cost $662,981,000 of which up to the end of 1950 there was spent the sum of $474,989,000. The balance of these funds would be spent during this and next year in keeping pace with the ever-increasing demand. These figures did not include monies to be spent on the Sir Adam Beck Generating Station No. 2 at Niagara.

Said Mr. Saunders:— "One cannot study the accomplishments of Hydro over the past five years in the field of construction without realizing the tremendous debt of gratitude we and all people of Ontario owe to the men of labor for their wonderful co-operation."

During this period the Commission had 442 different projects underway at one time, employing per project from a minimum of 10 men up to a maximum of 3,100 at Des Joachims and costing from a few thousand dollars, up to $75,000,000 expended at Des Joachims on the site.

At the present time Hydro had 340 projects underway employing over 9,000 men, he revealed.

In 1950 the Commission spent on its postwar construction program a total of $144,165,000 compared with $150,116,140 in 1949 and $90,676,431 in 1948. It was anticipated that an additional $155,000,000 would be spent this year.

In 1950, Hydro, in addition to bringing into service the generating stations already mentioned and, in addition to it rural program, constructed 1,047 circuit miles of 230,000-volt lines, bringing the total to 2,472 circuit miles, and further added 495 circuit miles of 115,000-volt lines, bringing the total to 4,748 circuit miles at this voltage.



The Commission also completed 8 new transformer stations with a total capacity of 244,200 kva and built additions to 7 existing transformer stations with a capacity of 711,600 kva.

Rural Program

Referring to the rural program, Mr. Saunders pointed out that the miles of rural lines were increased during 1950 from 32,059 to 34,668 and the number of consumers from 255,295 to 292,811,— the maximum aggregate load increased from 270,875 horsepower to 314,681 horsepower during the year.

Frequency Standardization

Coming to the Frequency Standardization program, Hydro's Chairman pointed out that $39,941,000 had been spent in the purchase of equipment, the setting up of basic office and stores centres and the changing to 60-cycle of some 86,083 customers.

"The Commission," Mr. Saunders stated, "has recently announced a new procedure for several municipalities in addition to the work being done by Comstock. Having regard to the tremendous growth in load which has occurred in the past year, it is evident that load growth on the 25-cycle system should be kept to an absolute minimum in order to avoid the cost of standarization of such load at a future date. With this in view, the Commission has authorized the immediate construction of certain facilities which will make 60-cycle power available to your system this year."

In order to make 60-cycle power available to municipal customers, the Com-



RAY PFAFF
St. Catharines



W. J. WYLIE
Toronto



GRAHAM BELL
Ontario Hydro

mission was prepared to render some financial assistance in the construction of low-voltage distribution lines.

This would depend, of course, on whether the local system agreed to purchase the lines if they were retained as a permanent part of the distribution system when frequency standardization was completed in the municipality. The selling price would be the original cost less reserves set up at the time of sale.

The Commission was also encouraging municipal systems (working through local contractors) to undertake the changeover of their own customers. Under this proposal, the cost of the work would be borne by the Commission subject to the provisions of the Frequency Standardization Tariff approved by Order-in-Council.

Hydro Purchasing

The tremendous programs upon which the Commission was engaged was involving heavy purchasing. The bulk of the orders, Mr. Saunders stressed, was being placed with Ontario firms.

During the period November 1, 1949, to October 31, 1950, payments for materials, supplies and services amounted to $138,668,680. This compared with $43,600,000 in 1946, $74,989,000 in 1947, $78,000,000 in 1948 and $100,000,000 in 1949. Of the total purchases last year of $138,668,680, some $131,793,880 (95%) was spent in Canada of which $93,633,302 was spent in Ontario. Of the gross total $4,489,000 (3.2%) was spent in the United States and $2,385,800 (1.8%) in the U.K.

During the years 1946 to 1950 inclusive, Ontario Hydro had purchased in Ontario, materials, supplies and services to the total of $235,970,927. Mr. Saunders drew attention to this as "truly a tremendous contribution to our postwar economy."

Provisions For Future

Hydro's Chairman went on to picture how increasing power demands would be met during the next few years.

Two additional units, each having a rated capacity of 100,000 kilowatts had been ordered for the Richard L. Hearn Generating Station and one additional unit of 66,000 kilowatts for the J. Clark Keith Generating Station. Delivery of the first of these in each case was to be made



WARREN P. BOLTON
Windsor



K. C. COLEMAN
Ontario Hydro



A. L. FURRANA
London



E. M. WOOD
Ontario Hydro



FRED D. GIBSON
Bell Telephone Company



C. E. SCHWENGER
Toronto

in the fall of 1952. There were now approximately 1,400 men employed in construction at these two steam electric plants.

This was the picture:

1951—Des Joachims (8th unit) already in, 45,000 kilowatts; Chenaux (last 6 units) one already in, 90,000 kilowatts; Otto Holden G. S. (formerly La Cave) (3 units), 72,000 kilowatts; J. Clark Keith, 132,000 kilowatts; Richard L. Hearn, 188,000 kilowatts.

1952—Otto Holden (5 units), 120,000 kilowatts; J. Clark Keith, 66,000 kilowatts; Richard L. Hearn, 88,000 kilowatts.

1953—Richard L. Hearn, 100,000 kilowatts.

Total—901,000 kilowatts.

"Looking beyond 1953," said Mr. Saunders, "we contemplate having some 224,000 additional kilowatts from the Niagara River in 1954 and another 224,000 kilowatts in 1955."

The new project at Niagara, already under way, was expected to cost $157,000,000.

St. Lawrence Needed

Hydro's Chairman again emphasized the urgency of the St. Lawrence power development. If authority for this project did not come within the next few months, exhaustive studies would be necessary in order to meet the increased electrical demand from 1956 onward.

"We shall," he pronounced, "give you the power, but without the St. Lawrence we cannot give you low-cost power in abundance."

Impressive figures were given on the financial standings of the Commission and the Hydro municipalities.

The assets of the Ontario Commission had reached $968,600,000, divided into the two sections—Southern Ontario and Thunder Bay $857,300,000, and Northern Ontario Properties $111,300,000. Liabilities for all systems totalled $587,800,000.

At the end of 1920, the combined assets of the local commissions under contract with the Commission totalled $34,057,682 with liabilities of $21,707,497. By 1950 the combined assets of the local Commissions totalled $272,900,000 with liabilities amounting to only $12,575,539.

Mr. Saunders referred to the rate situation at some length. Dealing with the

(Continued on page 25)



P. R. LOCKE
St. Thomas



JOHN DAWSON
Dunnville



H. D. ROTHWELL
Ontario Hydro

ACCELERATED SCHEDULE





TEMPORARY OPENINGS keep "ole man river rollin' along." The diversion openings between the piers will be filled in with concrete as in the foreground. The 2,500-foot main dam will be equipped with 42 stop-log sluices while six steel-gate sluiceways will handle flood discharge.

by

Harry M. Blake
Hydro News

"Some talk of Alexander
And some of Hercules,
Of Hector and Lysander
And such great names as these.
But of all the peacetime heroes
There's none that can compare—
With a tow, row, row, row,
For the Hydro Engineer."

EVERY generating unit in operation at Des Joachims and Chenaux was humming this Hydro version of the famous old army march when *Hydro News* visited the Commission's Ottawa River developments recently. La Cave, which has been renamed the Otto Holden G.S. in honor of Ontario Hydro's Assistant General Manager — Engineering, was busier than ever on construction. It caught up the refrain and sent its TOW-ROW-ROW-ROW echoing far and wide in jubilant thunder.

Hydro was certainly on the march in the Ottawa valley.

At Des Joachims construction was completed and only the clean-up job remained. In increasing numbers, the workers were leaving camp and reporting for the new project at Niagara. Plasterers, painters and decorators were applying the final touches to the powerhouse, while the glistening white rotors of the generating units in their red stator housings gave an air of both distinction and efficiency to the ensemble. When landscaping has been carried out, Des Joachims will vie in attractiveness with Hydro's power plants on the Niagara River.

All of the eight 60,000-horsepower generating units at Des Joachims were in service at the time of our visit. Enviable records in peak production had already been made when only seven units were in operation. On January 10 the output was 320,000 kilowatts or 429,000 horsepower, and they had even exceeded this figure on December 13 with a total of 325,000 kilowatts or approximately 435,600 horsepower. December 15 was a banner day with a production of 6,142,900 kilowatthours. In February, with the eighth generator installed, Des Joachims was operating at its normal maximum plant capacity of 358,000 kilowatts, or 480,000 horsepower. Senior Resident Engineer William M. Hogg was delighted with the plant's performance. With favorable flow conditions, he expected that maximum peaks of over 500,000 horsepower would be attained.

Further downstream at Chenaux four of the eight 20,000 horsepower generating units were in service.

Construction Progress

For some time past, construction at the Otto Holden G.S., development on the Ottawa River, five miles north of Mattawa and 65 miles upstream from Des Joachims, has been carried on at accelerated schedules. Approval has recently been given by the Commission for the addition of two generating units which will bring capacity up from 192,000 to 256,000 horsepower. When we arrived, the engineers were in a huddle, considering ways and means to still further speed up the work with a view to bringing the plant into initial service early in November of this year.

Following the Hydro practice of ensuring adequate supervision on all its enterprises, Project Manager W. B. Crombie, working in close cooperation with headquarters at Toronto, is assisted by an experienced field staff. George Roy is the Construction Superintendent, with Douglas Johnson as his chief assistant. The Construction Engineer is H. A. Jackson. Working with Senior Resident Engineer J. A. MacGillivray are Pat Campbell, Resident Engineer on the Ontario side of the development, and Norman Malloch, Resident Engineer, on the Quebec

CONSTRUCTING FORMS for placing the concrete floors of the intakes for the turbines at the Otto Holden Generating Station. There will be 16 rectangular passages.

←

Commission Approves Two Additional Generating Units for Otto Holden Project



HOISTING MATERIAL to an erection platform is a powerful guy derrick. At the left is a gantry crane which will be used later in the closure operations at the dam.

side. Norman Henderson is Personnel Manager. Group supervision on the various jobs upon which over 2,000 men are now employed is carried out by Hydro foremen with long experience in construction work.

We found that construction at the project was already about 60 percent completed. This is a fine record when it is remembered that work was only begun in the fall of 1948. Up to February 28 some 170,300 cubic yards of concrete had been placed for dam and sluiceways and, apart from a gap on the Quebec side to accommodate the branch line of the Canadian Pacific Railway from Mattawa to Timiskaming, the 2,600-foot dam structure, in which will be incorporated the headworks, with the powerhouse nestling at its base, formed a continuous line of concrete and formwork from one shore to the other. Bailey bridging is being used extensively during construction. Bailey bridge towers support the platform for the concrete-conveyor belt running along the top of the dam, and sections of Bailey steel have been used for bridging the Ottawa River, so that the heaviest traffic can pass to and fro from the Ontario to the Quebec side of the development.

There are seven temporary sluiceways

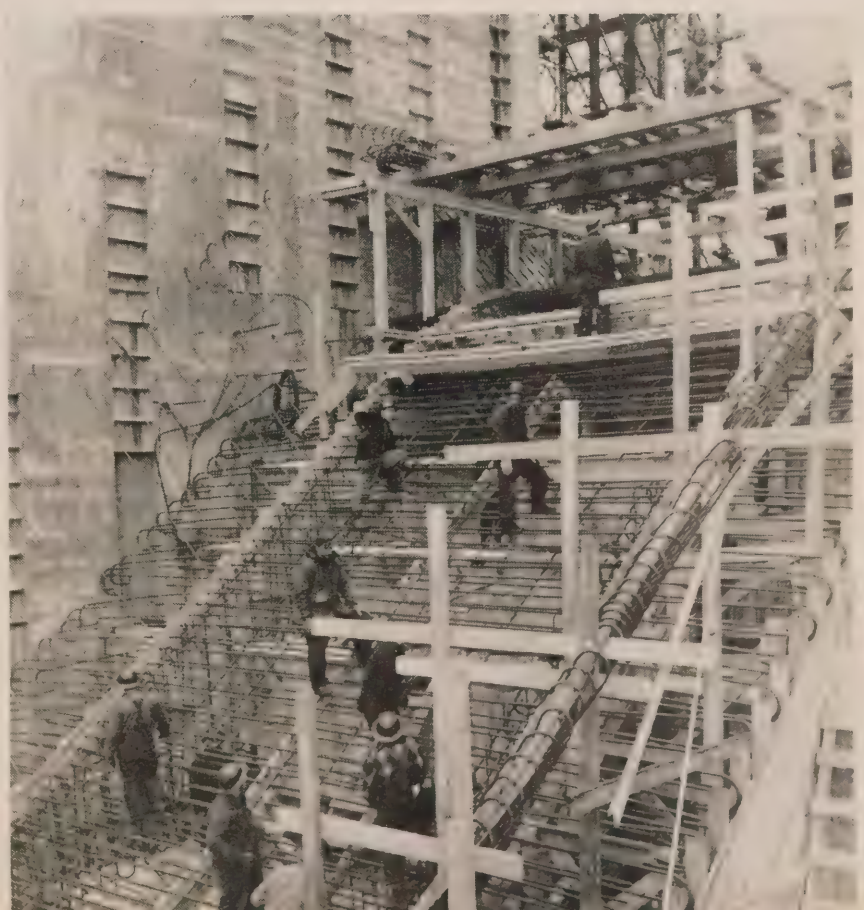


HYDRO DEVELOPMENT at the project is involving the relocation of 38 miles of line on the Timiskaming branch of the C.P.R. Flooding will raise the water upstream from the dam by 70 feet. The new line can be seen above the train which has passed through temporary opening in the dam.

FORMWORK FOR the rollways of the main sluices is being erected. Overhead is the concrete conveyor bridge, supported by Bailey towers. In the background, partially-completed forms for the headworks and power house substructure. Project is scheduled for initial operation in October.

in the dam. Through them the flow of the Ottawa River is at present diverted. When the branch line of the Canadian Pacific Railway running along the river shore has been relocated on higher ground, these sluiceways will be filled in with concrete, raising the level of the water upstream from the dam to form the headpond. Six permanent steel-gate sluiceways and 42 stop-log sluices, all located on the Quebec side of the river, will handle discharge from the headpond over and above the flow required for the turbines.

Filling-in of the temporary sluiceways will be quite a juggling feat. It will be carried out in stages so that there can be complete control of the rising headpond at all times. Steel gates, operating in special temporary steel gains or roller paths, and located at the upstream ends of the piers, will be used to dewater individual openings and enable the concrete to be placed. Alternating from one sluiceway to another, concrete pours will be made, varying in height from five to 20 feet. While one sluiceway is closed off, the others will accommodate the rising river. Gradually, more concrete will



PLACING REINFORCING steel before pouring the concrete for the flooring of a penstock.

➡

be added until the headpond reaches a high enough level for the discharge of the river to be taken care of by the permanent sluiceways on the Quebec flank of the dam. With work on the powerhouse installations proceeding simultaneously, the development will then be ready for initial service.

Relocation of Railway

At present the roadbed of the railway in the vicinity of the project is about ten feet above the river. As the flooded area will extend to Lake Timiskaming, a diversion of approximately 38 miles is required. Towering hills of gneiss and granite flank the river on both sides and the relocating of this 38 miles of line has presented similar problems to those encountered by railway construction engineers on the north shore of Lake Superior. The job is being carried out by two experienced contracting firms — Peacock and McQuigge Limited, on the southern sections, and the Therrien Construction Company Limited, on the northern end. Assistance is being given by Hydro Construction Division crews. The Therrien Company is specially equipped for rail-laying and is already carrying out this job on certain graded sections of the relocated line. It is believed that the new section of railway, with all its structures, will be ready for traffic in time to ensure initial power services early in November.



DR. OTTO HOLDEN

Powerhouse Activities

About 50 percent of the concreting required for headworks and powerhouse had been carried out at the project at the time of our visit. A good start had been made on the erection of No. 1 turbine, which will be completely installed by June. Bedded parts for three additional units were in various stages of erection.

The erection of the structural steel for the powerhouse started in February. This development is the first of the Hydro developments to have welded rigid frame bents in place of roof trusses. This innovation is expected to provide more pleasing architectural effects as well as some saving in the weight of the steel.

Another feature is the placing of the governors and pumps outside the generating room. While the main idea in "clear decks" is to ensure maximum efficiency and convenience in operation, there is incidentally the objective of making Hydro plants among the best-groomed of their kind in the world. As Chairman Saunders expresses it: "It is a great lift to the morale of the operating staff to be able to work in an attractive and well-ordered generating station, and it helps us to give the best possible service to the people of Ontario. That's what we're after."

Initial Service

Initial power deliveries will be provided by two generating units, each with a capacity of 32,000 horsepower. A further four units will be brought into service progressively at one month intervals, while units 7 and 8, recently authorized, are scheduled for completion in the fall of 1952.

Strategically Located

The Otto Holden G.S. is strategically located to serve both Southern and Northern Ontario. As far as transmission lines are concerned, the link has already been forged. Constructed and in service is the 230,000-volt line (temporarily operating at 115,000 volts) which will carry power to Des Joachims and thence into the Southern Ontario pool. This line is connected with circuits to Crystal Falls whence a 115,000-volt line feeds into the Nipissing and Sudbury districts.

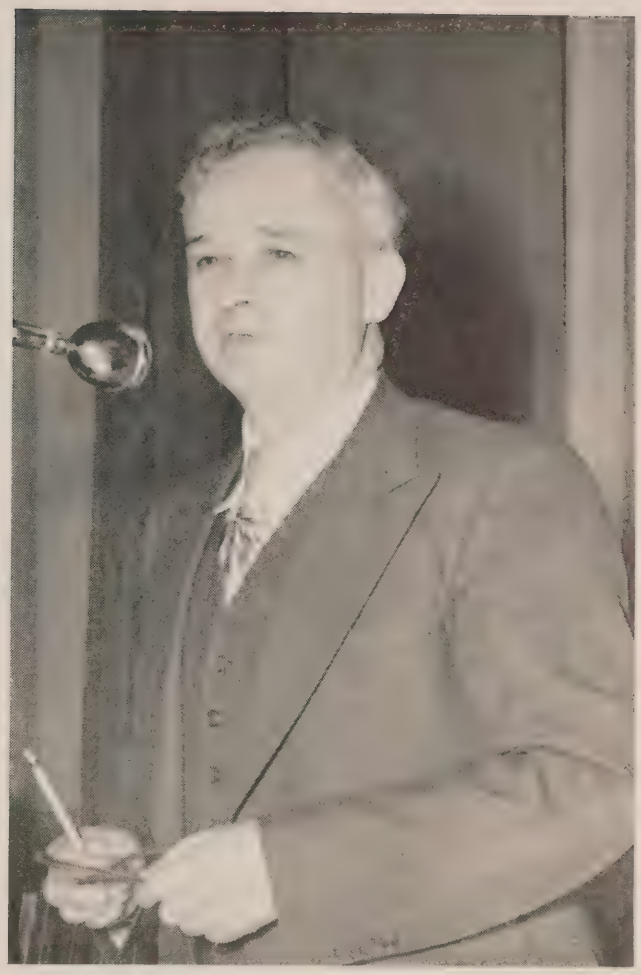
When Hydro's three new developments on the Ottawa River are all in full service they will represent a maximum normal production capacity of approximately 900,000 horsepower. This is greater than the combined capacity of the Commission's three generating stations on the Niagara River. Hydro engineers at the Ottawa River plants are hopeful that they will be able to stage combined maximum peak performances that will take the blue ribbon for power production away from Niagara until Hydro's new project there is completed.



ERECTION EQUIPMENT moving material to be used in the closure operations on sluiceways.

Voices in the Wilderness

U.S. decision on St. Lawrence will determine pattern for Ontario's future power development, O.M.E.A. President tells delegates



O.M.E.A. PRESIDENT D. P. Cliff, during his inaugural address at this year's convention, suggested scarcity of resolutions was due to the fact that the Association had successfully survived the storm of postwar problems and was now sailing in less troubled waters.

DECISION of the United States respecting the fate of the St. Lawrence seaway and power project will determine largely the pattern of Ontario's future power development.

This opinion was expressed by D. P. Cliff, President of the O.M.E.A. during his inaugural address at the recent annual convention in Toronto.

Mr. Cliff referred to the fact that Ontario Hydro had already started work on the second large power plant at Queenston which would produce approximately 600,000 horsepower.

"This brings us face to face with the fact that we now have under development every conceivable, strategic major source of hydro-electric power lying wholly within the control of the province," he pointed out.

Low-cost Power Potential

For the past 20 years O.M.E.A. had recognized the low-cost power potential of the St. Lawrence and had repeatedly urged that this power be developed.

"For the same number of years, our voice, and I include the Ontario Hydro Commission, has been a voice crying in the wilderness of international politics," he asserted.

Few Resolutions

Reflecting on the absence during the past year of the usual number of resolutions, he suggested the possibility that this was an indication the association was sailing in less troubled waters and had successfully survived the storm of postwar problems.

Mr. Cliff complimented Ontario Hydro on its progress during the last year, which saw three major generating stations brought into service.

"Even with these huge plants in full operation, we find it impossible to do more than keep pace with the greatly-increased demands," he added.

Reporting on Association activities for the last 12 months, the President revealed that it had achieved success with the resolution dealing with permission to install electrical plug outlets in bathrooms.

Commenting on the present Pension and Insurance Plan, he expressed the belief that the existing benefits under the plan were inadequate.

Mr. Cliff also gave a brief outline of the progress made by the committee working on the standardization of design for municipal distribution systems.

System Standardization

The report of this committee and of the various sub-committees was presented by its Chairman, E. M. Wood, H.E.P.C.

In his report, Mr. Wood stated the committee had been organized at the request of the O.M.E.A. by Ontario Hydro last May. Representatives of the O.M.E.A., the A.M.E.U. and H.E.P.C. were included in its membership.

Mr. Wood pointed out that the objective of standardization of design was to provide a distribution system structurally sound, safe to operate and maintain, and free of danger to the public.

Standardization would facilitate periodic inspection of municipal Hydro properties. In case of emergency, it would enable crews to work efficiently and safely in any municipality. Furthermore, it would tend to promote mass production of materials and consequent lowering of costs.

Many problems, Mr. Wood stated, had been encountered by the committees in their work and investigations to date. Therefore, it had been suggested that the O.M.E.A. approach Ontario Hydro with a request that engineering personnel be assigned to work under broad directives from the respective sub-committees in investigating engineering details and in drafting standards as required.

The suggested request was embodied in a resolution passed shortly afterwards at a session of the O.M.E.A.



CANADA STANDS READY

Hon. Lionel Chevrier Expresses Hope U.S. Congress Will Implement St. Lawrence Agreement At Its Present Session

CANADA stands ready to carry out her part of the agreement for the development of the St. Lawrence and is hopeful that it may be implemented by the United States Congress at the present session.

This observation was contained in an address by the Hon. Lionel Chevrier, Minister of Transport, given at the joint annual dinner of the A.M.E.U. and O.M.E.A. in Toronto on February 27.

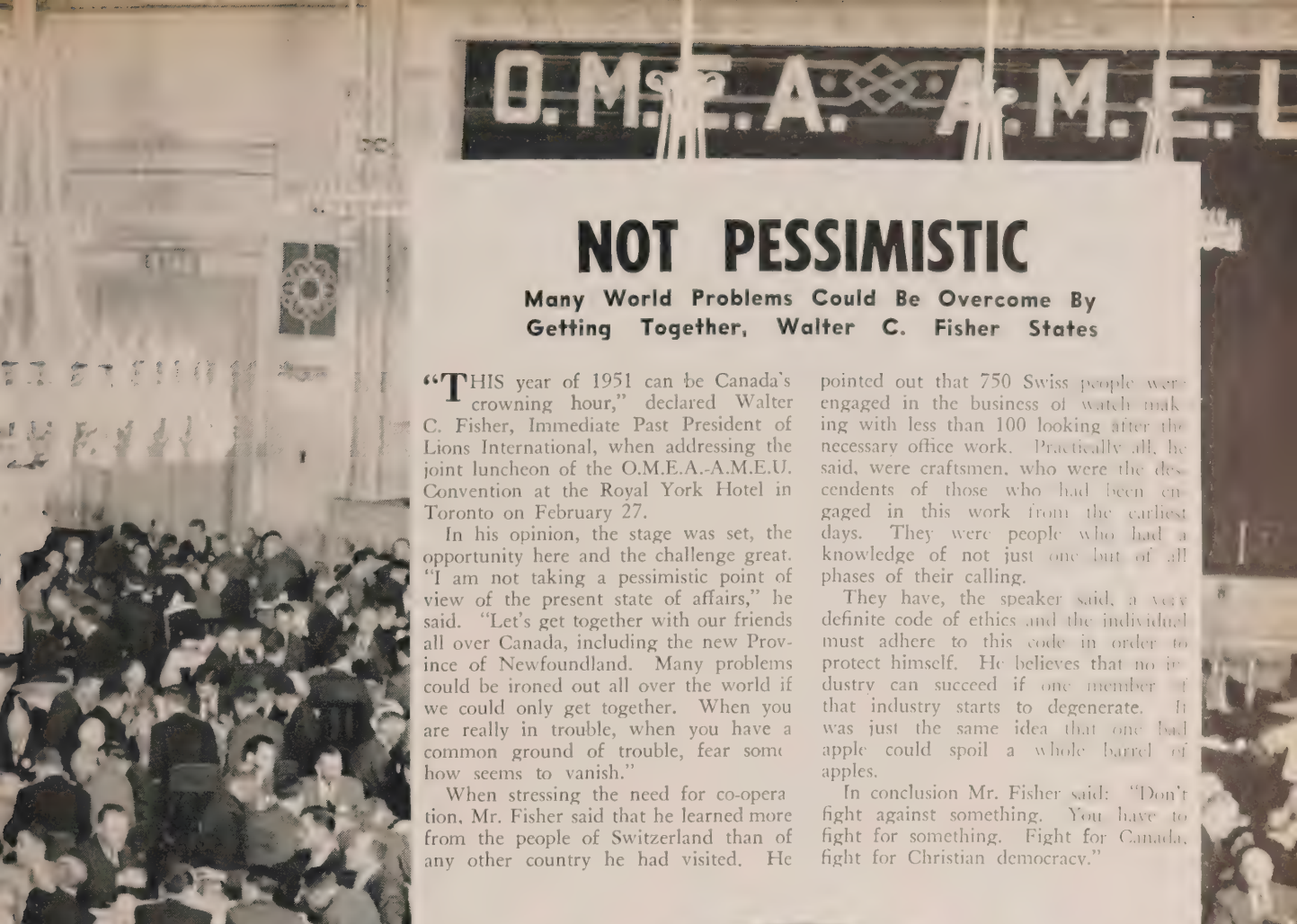
While Mr. Chevrier, a victim of the flu, was unable to attend in person, his address was delivered in an able manner by his parliamentary assistant, William M. Benedickson, M.P., Kenora-Rainy River.

Mr. Chevrier's paper directed attention to the fact that after the construction of the new Niagara project had been completed, the only remaining major source of power so far as Ontario was concerned would be the St. Lawrence which, if and when developed, would make available an additional 2,200,000 horsepower, half of which would be utilized by this province and half by New York State.

Significant Difference in Cost

"Without this additional power," the address went on, "Ontario may be obliged to place increasing dependency upon the production of electricity from steam power. Indeed, the trend is already evident in the steam plants now being constructed in Toronto and Windsor. One cannot fail to be apprehensive of this trend when one considers the significant difference in cost. On a kilowatthour basis, steam costs at a plant are approximately three times hydro costs at the source. It is, therefore, apparent that if Ontario must turn more and more to steam power as a source of electricity then provincial industry will be placed at a competitive disadvantage. Not only would this raise certain problems for provincial industry, but would raise problems with respect to

(Continued on page 36)



NOT PESSIMISTIC

Many World Problems Could Be Overcome By Getting Together, Walter C. Fisher States

"THIS year of 1951 can be Canada's crowning hour," declared Walter C. Fisher, Immediate Past President of Lions International, when addressing the joint luncheon of the O.M.E.A.-A.M.E.U. Convention at the Royal York Hotel in Toronto on February 27.

In his opinion, the stage was set, the opportunity here and the challenge great. "I am not taking a pessimistic point of view of the present state of affairs," he said. "Let's get together with our friends all over Canada, including the new Province of Newfoundland. Many problems could be ironed out all over the world if we could only get together. When you are really in trouble, when you have a common ground of trouble, fear somehow seems to vanish."

When stressing the need for co-operation, Mr. Fisher said that he learned more from the people of Switzerland than of any other country he had visited. He pointed out that 750 Swiss people were engaged in the business of watch making with less than 100 looking after the necessary office work. Practically all, he said, were craftsmen, who were the descendents of those who had been engaged in this work from the earliest days. They were people who had a knowledge of not just one but of all phases of their calling.

They have, the speaker said, a very definite code of ethics and the individual must adhere to this code in order to protect himself. He believes that no industry can succeed if one member of that industry starts to degenerate. It was just the same idea that one bad apple could spoil a whole barrel of apples.

In conclusion Mr. Fisher said: "Don't fight against something. You have to fight for something. Fight for Canada, fight for Christian democracy."

Voting Restricted To Active Members

O.M.E.A. Resolution Abolishes Long-Debated "Honorary" Privilege – Ask Elected Representative On Ontario Commission

TWO resolutions, which have been the subject of protracted debate at annual meetings of the O.M.E.A. for the past three or four years, received approval at this year's convention.

The first of these, read by F. H. Plant, of Ottawa, representing the Resolutions Committee, dealt with the Association's representation on The Hydro-Electric Power Commission of Ontario. It was submitted by the Paris Public Utilities Commission.

The resolution pointed out that while the Second Vice-Chairman of the Ontario Commission was regarded as representing the O.M.E.A. and had actively associated himself with their interests, he, like the Chairman and the First Vice-Chairman, had been appointed by Order-in-Council.

The Paris motion contended that he should be elected by the O.M.E.A. itself. Approval of the resolution empowers the O.M.E.A. President to appoint a committee representing all sections of the province to interview Premier Frost and to request amendment of the Power Act.

The amendment would permit the O.M.E.A. to elect one representative to the present three-member Commission. If the Commission is enlarged to five members, it would elect two representatives.





No "Honorary" Voting

The second resolution, which was carried by more than a two-thirds majority, restricts the function of honorary members of the O.M.E.A. to an advisory capacity, without privilege of voting at Association meetings and without the right to serve on the Board of Directors, the Executive or any other Committee.

Up to the present, the Chairman of Ontario Hydro and six honorary vice-presidents, elected as a tribute to previous distinguished service when they were active members of the Association, have retained the voting privilege. It was claimed by Bertram Merson, of the Tor-

General view of registration at joint O.M.E.A.-A.M.E.U. Convention held in Royal York Hotel, Toronto. Registration figures from O.M.E.A. sessions showed increase over 1950.



O.M.E.A. DELEGATES LISTEN ATTENTIVELY AS 1951 RESOLUTIONS ARE PRESENTED BY THE COMMITTEE.

onto Hydro-Electric System, who submitted the resolution, that this was wrong in principle and that voting should be restricted to active members. The delegates agreed that the intent of the proposed change should be made effective immediately but that the precise wording in the amendment to the constitution necessary to clarify the situation be left to the incoming executive.

Expressing the belief that more money would be saved for all municipal commissions, District No. 6 proffered a resolution that all Municipal Hydro fire insurance policies be taken over by the Ontario Commission. Mr. Plant stated that the Resolutions Committee was unfavorable to the resolution on the grounds of its impracticability. An amendment was, however, passed to the effect that the matter be investigated by a committee, reporting back to the next annual meeting.

The following is a summary of the other resolutions, all carried with little debate:

That the O.M.E.A. Executive be requested to set up a committee to formulate a uniform constitution for the various districts.

That the H.E.P.C. be requested to proceed with the completion and distribution of a pamphlet for the guidance of Municipal Hydro commissioners.

That the H.E.P.C. be asked to explain the necessity for the new method of costing power in effect from January 1, 1951.

That the O.M.E.A. commend the Government of Canada for its stand upon the proposed St. Lawrence development, and that it be urged to continue its representations to the Government of the United States; and that a copy of the resolution emphasizing the necessity for defence purposes of the additional power which would be provided by the St. Lawrence, be referred to the Prime Minister of

(Continued on page 39

Appreciation

At the annual meeting of the Ontario Municipal Electric Association held in Toronto, the following resolution was adopted:

"Resolved that this Association go on record as expressing our appreciation of the help and cooperation extended to us during the past year by *Hydro News,* which has given full coverage at all times."



AMEU President Butter paid a double tribute to Hydro and the municipalities when he congratulated them on the construction and expansion of generating and distribution facilities during past year.

Increased Facilities Lauded

A.M.E.U. President Reviews Activities Of Past Year When Addressing Convention

POINTING out that Hydro loads and generating facilities had both increased enormously during the past year, A.M.E.U. President Robert Butter, in his address to delegates to the recent convention, congratulated Ontario Hydro on the speed with which vast undertakings had been completed. At the same time, he paid tribute to the municipalities on the work accomplished in expanding and rebuilding their facilities to deliver increased amounts of power to their consumers.

Summarizing A.M.E.U. activities during the year, the speaker stated that there had been 48 committee meetings, including executive and standing committee meetings.

Mr. Butter also mentioned the rates conference held at Bigwin Inn last June. Although he agreed that a great deal of information had been gained at that session, he said the executive felt that more might have been accomplished if the papers had been printed in advance, and the conference devoted to discussion and recommendations arising from the papers.

It had been decided, therefore, that all papers at the current session would be printed in advance so that the subject could be thrown open for discussion rather than having the papers read.

Turning to the question of billing, Mr. Butter pointed out that Ontario Hydro has instigated the load factor method of billing municipalities. He stated that it was probably too soon to comment on the new method, but said that it would probably have flaws which would have to be corrected later. In any event he doubted if anyone had been entirely satisfied with the old method.

Continuing, Mr. Butter turned his attention to water heater service. He told delegates of a recent visit to Winnipeg Hydro and said he had been very impressed with their controlled water heater load.

The speaker revealed that Winnipeg had a controlled water heater load of 22,000 kw with a firm peak load of only 107,000 kw with the water heaters turned off.

"In other words," he pointed out, "the water heater load represents over 20 percent of their total peak. They have over 30,000 controlled water heaters in service."

Stating that these figures would probably sound startling to the delegates, Mr. Butter said they did show what really could be done with controlled water heater load. He also mentioned the fact that Winnipeg guaranteed their customers that water heaters would not be off more than 10 percent of the time in a 24-hour period, and supplied water heater service at a flat rate of $2.40 per kw net per month. This rate, Mr. Butter stated, was about 30 percent less than the average Ontario rate, and over 100 percent less than the rate charged in some municipalities in the Southern Ontario System.

Summing up, he said that, in his opinion, controlled water heaters were one of the most important sources of revenue (at least under the old method of billing) and that very little thought had been given to their rates, or to the fact that the regulation of the domestic distribution transformers was improved due to the reduction of their load by cutting off the heaters at a time when these transformers were usually overloaded.

The only thought apparently given to this type of load, according to the speaker, was either cutting them off for the municipalities' own peak control or for that of the H.E.P.C. This would be fair enough if all municipalities had controlled water heaters, Mr. Butter said, but under the circumstances he felt that it seemed a little too much like using the easiest method.

Mr. Butter then spoke on a matter which he said he would like to leave to the incoming executive—the question of utility maintenance during a major emergency.

Agreeing that all municipalities were proud of their ability to take care of any known emergency, the speaker stressed the word "known" emergency. Any utility that had not evolved a swift, competent, and self-starting method of emergency trouble repair was, in the speaker's opinion, lacking in its main function—service.

A utility, properly operated and equipped, now prided itself on its ability to repair any known type of emergency in not over two day's time and

probably less, Mr. Butter pointed out. But, he asked if everyone were not being just "a little too smug and complacent about something of which they have very little experience."

Mr. Butter requested his audience to suppose that some city had a major emergency causing 20 times more damage than anything yet experienced—also that they had 10 percent casualties on their staff and that their garage containing line trucks and tools was completely destroyed. The two-day estimate would then look more like 20, he claimed.

Everyone hoped that such an emergency woud never arise, the speaker said, but the Association might be open to criticism if it did not take the lead in thinking along these lines, he suggested.

Mr. Butter pointed out that the Bell Telephone could dispatch crews from anywhere in Canada to assist in emergency trouble in another area, and although the municipalities prided themselves on having faster emergency maintenance, he thought the Bell Company had a better system for a major disaster.

There was no doubt that the municipalities could set up a quick functioning method of mutual aid, Mr. Butter

(Continued on page 39)



IN RECOGNITION of his untiring efforts on behalf of the A.M.E.U., the 1950 President, Robert Butter, Owen Sound, was presented with an illuminated address and silver rose bowl by J. Clark Keith, Windsor, another past president, during a business session at this year's meeting.



A.M.E.U. EXECUTIVE for 1951, elected at the recent annual convention in Toronto. Front row, left to right, J. E. Teckoe, Jr., Windsor; Robert Butter, Owen Sound, retiring President; M. W. Rogers, Carleton Place, President; R. H. Martindale, Sudbury, Vice-President. Back row, V. A. McKillop, London; W. R. Mathieson, Toronto, Secretary; H. A. Howard, Thorold; R. S. Reynolds, Chatham; O. H. Scott, Belleville; A. W. H. Taber, Fort William; W. G. Lane, Collingwood and N. J. Douglas, Smiths Falls. Other officers who were absent when this photo was taken are: N. A. Grandfield, Galt; E. A. Washburn, Stratford; Gerald Lillie, Toronto; G. E. Chase, Bowmanville, and Stuart R. Watkinshaw, North Bay.

Convention



BOB FENNER
RIVERSIDE
O.M.E.A.



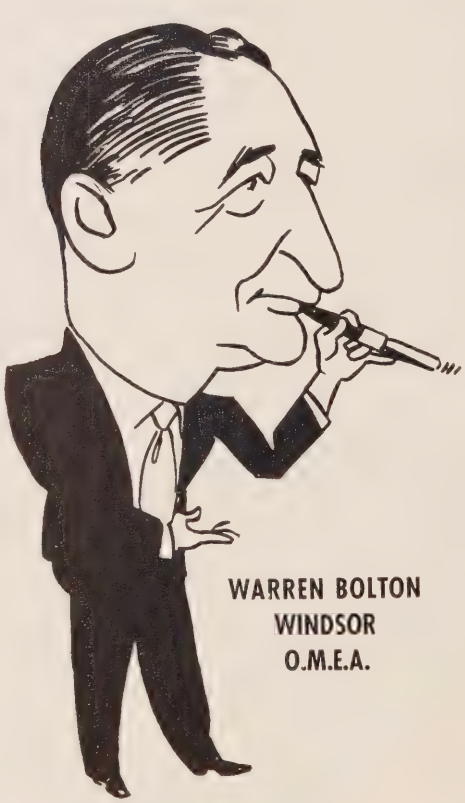
FRANK H. PLANT
OTTAWA
O.M.E.A.



HOWARD BERRY
PORT STANLEY
A.M.E.U.



R. B. CHANDLER
PORT ARTHUR, ONT.
A.M.E.U.



WARREN BOLTON
WINDSOR
O.M.E.A.



G. F. SHREVE
OSHAWA
A.M.E.U.

Caricatures

by W. B. MAC



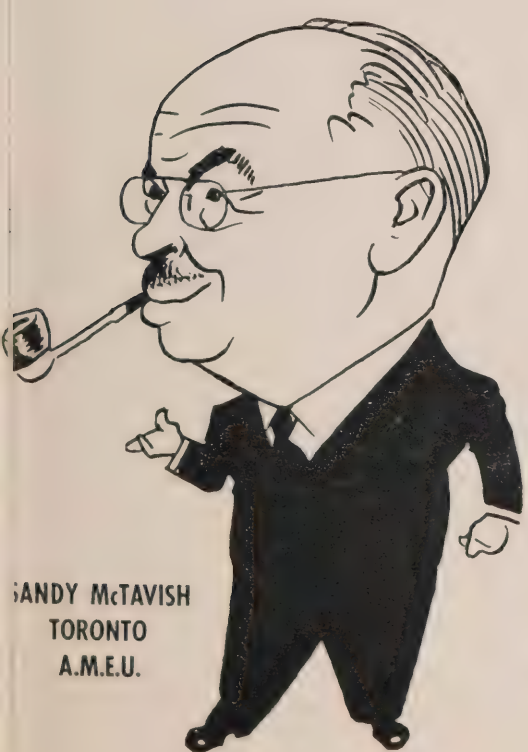
JOHN PASSMORE
HENSALL
A.M.E.U.



ROY PIERSON
CANISVILLE
O.M.E.A.



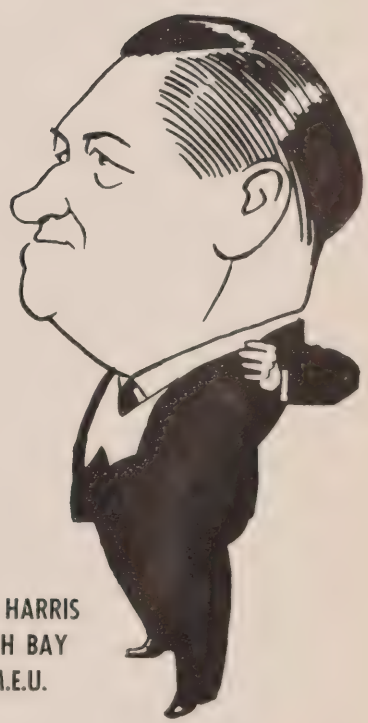
G. W. HOGARTH
KINGSVILLE
O.M.E.A.



SANDY McTAVISH
TORONTO
A.M.E.U.



R. W. D. LEWIS
LONDON
O.M.E.A.



O. W. HARRIS
NORTH BAY
A.M.E.U.



GOOD street lighting is one of the major electrical achievements of the electrical engineer.

This fact was graphically demonstrated by a series of papers presented at the annual A.M.E.U. Convention this year.

Speakers included: E. F. Burbank, Street Lighting Engineer, Toronto Hydro-Electric System; W. A. Shaw, Windsor Utilities Commission; Edward Ellerby, Assistant Distribution Engineer, Hamilton Hydro-Electric System; R. E. Jones, Electrical Engineering Department, Ontario Hydro, and R. H. Martindale, Secretary-Manager, Sudbury Hydro-Electric Commission.

Presenting the first paper on this subject, E. F. Burbank outlined the steps taken in the installation of new lighting on University Avenue in Toronto.

Owing to heavy traffic conditions this street was widened and made in to a dual-roadway artery which was approximately 125 feet wide. This width, Mr. Burbank explained, presented Toronto Hydro with a new lighting problem as the city had very few roadways over 60 feet in width.

The initial proposal for lighting the dual-roadway was to erect standard, 29-foot concrete poles with approximately 100 foot spacing at the curb on both sides of each traffic roadway. It was planned to install 9'6" Avenue Road type brackets on these poles with modern luminaires of I.E.S. Type III light distribution and 500-watt lamps. This would, the speaker continued, have placed the light centre approximately 9 feet from the curb at a height of 25 feet above the pavement. The calculated average foot candles for this type of installation was 1.86. The light supply was to be from 120/240v. multiple overhead street lighting secondaries.

It was also decided that there should be no overhead lines, the fixtures being supplied from underground conductors.

Late in 1949, Mr. Burbank continued, it became evident that the original proposal of double side lighting on both roadways would not be acceptable. It was found that it would be necessary to keep the centre boulevards clear to avoid obstructing the general view of the Parliament Building and to maintain the wide appearance of the street itself.

As a result, the present lighting system was approved. This lighting consisted of standards placed at the east curb of the east roadway and the west curb of the west roadway. The luminaires used were I.E.S. type III distribution with 750-watt lamps. The light centre of these luminaires was raised from 25 to 27 feet above the main pavement but maintained the 9-foot overhang from the curb. The

New ornamental standards installed on Toronto's University Avenue were described in the paper given by E. F. Burbank, Lighting Engineer for Toronto Hydro, during technical session at this year's joint convention.

Out Of The Night

A.M.E.U. Convention Speakers Describe Better Methods Of Street Lighting

calculated average foot candles for the roadways were reduced from 1.86 to slightly above 1.2 f.c. which was still above the minimum recommended I.E.S. value for this type of street. Some spot recordings had been taken since the installation, Mr. Ellerby said, and it had been found that these values were, if anything, slightly higher than the calculated values.

Stating that there was only a very small amount of glare at the 27 foot mounting height, Mr. Burbank said he felt that this present arrangement of luminaires gave a well-lighted street at night and that the daytime appearance left little to be desired.

Light Distribution

Some interesting light distribution factors were described by W. A. Shaw in his paper on "Luminaire Types and Their Application".

The principal distribution of light from the luminaire should be downward and outward, Mr. Shaw asserted, in order to utilize a high percentage of the lamp lumens in illuminating the roadway, pavement and adjacent area. The distribution selected should be that which would produce a practical maximum in uniformity of pavement brightness along and over the full width of the roadway with a practical minimum of glare.

Factors involved in choice of light distribution included mounting height, spacing and transverse location, the speaker stated. Good practice, he said, required that light emitted from the luminaire be largely directed toward the street and properly distributed to guarantee efficiency, provide the recommended average illumination, and ensure that the lowest foot candle at any point on the roadway would not be less than recommended. There should be some light beyond the curb lines to provide adequate illumination on the sidewalk and adjacent areas.

Mr. Shaw illustrated his various lighting points with a series of charts which showed various types of lateral distribution.

Pendent Luminaires

Pointing out that during the past three years the City of Hamilton had been carrying on a program of modernizing its street lighting, Edward Ellerby described the use of 500-watt pendent luminaires on Hamilton's main thoroughfares.

Mr. Ellerby's paper, "A Comparison Of the Pendent Luminaire With Former Types of Street Lighting Units in Hamilton", dealt with the extensive field tests on existing street lighting units made by the Hamilton Hydro, with the assistance of the H.E.P.C. Laboratory.

The results of the survey, which covered all typical streets, existing S.L. units, mounting heights, spacings, lamps, foot candles obtained and accepted I.E.S. foot candles, had been presented with recommendations to the municipal authorities, Mr. Ellerby revealed.

The speaker first described the modern pendent luminaire which was being successfully used in Hamilton.

Giving details of this lamp's construction, Mr. Ellerby turned to its counterpart — the old 500-watt ornamental unit. By comparison, he pointed out, the old lamp's rugged construction had many expensive parts, was far from weatherproof and had a high maintenance cost. The speaker also made reference to a series of tables showing that the useful lumens per $1.00 of cost and the useful lumens per watt of lamp was considerably higher in the new model. Discussing the question of 500-watt luminaire replacements, the speaker told his listeners that the average monthly replacement in 1950 for 500-watt luminaires was 3.7% for the modern pendents and 26.6% for the old ornamental brackets.

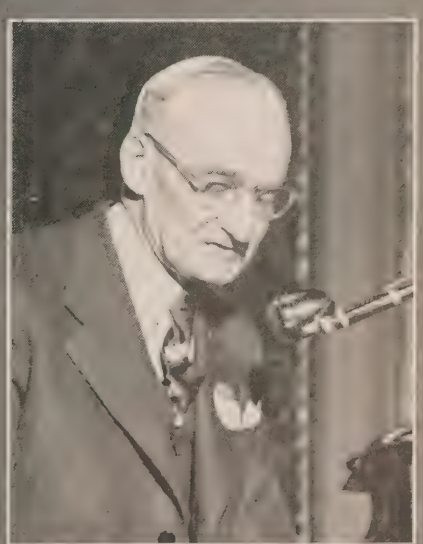
Summing up, Mr. Ellerby contended that the pendent luminaire with a 500 watt lamp represented a decided advance in street lighting economy in dollar cost, number of parts, use of energy, weight of materials, lamp replacements and final illumination on the roadway. He ex-



R. E. JONES
Ontario Hydro



G. W. PROCUNIER
C. G. E., Toronto

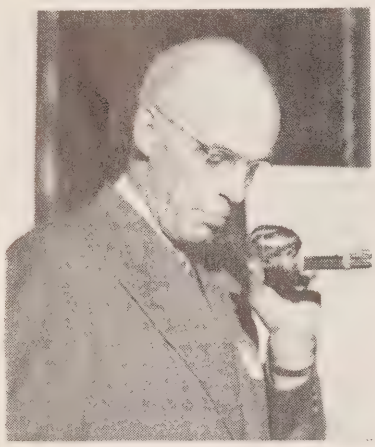


E. N. MARTINDALE
Sudbury

A.M.E.U. PANEL SPEAKERS



EDWARD ELLERBY
Hamilton Hydro-Electric System.



W. A. SHAW
Windsor Utilities Commission.



E. F. BURBANK
Toronto Hydro-Electric System.

pressed the hope that the figures given, taken from the actual results in Hamilton, would be of assistance to those municipalities who could find little time to investigate and compare their present lighting with the luminaires now available to them.

Smaller Municipalities

Outlining the improvements in lighting from the early arc lamp days, R. E. Jones had some criticism in his paper "Lighting in the Smaller Municipalities" for inside-frosted lamps.

This type of lighting, used in many suburban systems today, gave a "pretty" effect when viewed from a distance, Mr. Jones pointed out, but for street illumination, he felt that it left much to be desired.

When a light was placed at each street corner only, the road illumination between corners was negligible. Worse still, he asserted, the lone light in the darkness often had a blinding effect. As one approached the corner, the light appeared to become brighter and the eye adjusted itself accordingly. After passing the corner, the eye did not immediately become adjusted to the comparative darkness and vision was difficult.

Describing new developments in refractors, Mr. Jones submitted the following recommendations for good lighting installations at low cost:

(a) Use a prismatic refractor type of luminaire suitable for 100 to 200 watt lamps.

(b) Install the luminaire with correct side of glassware towards the houses.

(c) If means of servicing are available, use an 8-foot bracket. If lamps must be replaced from pole use a 4-foot bracket.

(d) Use a mounting height for light centre of not less than 20 feet. Upsweep brackets have a pleasing appearance and permit lower mounting of bracket on short or crowded poles.

(e) The distance between lights should not be over 250 feet. The use of larger lamps will give greater illumination but will not increase the area illuminated.

(f) Use 100, 150, or 200 watt lamps depending on brightness required and adjust socket accordingly. Lamps must be clear as the reflector is not designed for a large source of light such as with a frosted lamp.

(g) At street intersections adjust glassware so that pattern of light is along one street. This will necessitate another light at a reasonable distance on the side street. Adjusting the light pattern to be diagonally across the intersection will result in the illumination being on houses on opposite corners and little on either street. The use of a symmetric unit of this size is not recommended.

(h) Finally, be sure you have adequate voltage at your lamps.

Mercury-Vapor Lighting

The final speaker, R. H. Martindale, expressed great confidence in Sudbury's mercury-vapor system during the presentation of his paper "Our Experience With Mercury-Vapor Street Lighting".

Describing the various installations in his city, Mr. Martindale said the resulting color effect from the combined filament and vapor lamps, was a bluish-white, quite pleasing in effect, giving the street a smart appearance.

"The added red ray from filament lamps is a definite improvement in our opinion", he stated. "There is also a further advantage in a combined filament and vapor lamp fixture, in that the failure of either type of lamp still leaves the unit in service, but with reduced lumen output."

This type of lamp permitted greater spacing of light units, and resulted in low maintenance from longlife lamps and less cleaning and repairs to luminaires.

The annual cost for all street lighting in Sudbury was approximately .67c. per capita, Mr. Martindale revealed. He did, however, point out that these rates were set some years ago and said that new rates would go into effect shortly which would bring the annual per capita cost slightly over $1.00.

Mercury-vapor street lighting was not prevalent in Canada, the speaker stated, and he emphasized that Sudbury was one of the first cities to instal these lamps. They were also in use in Montreal, St. Hyacinthe, Calgary, Edmonton and Vancouver, he continued.

Installation of this "high efficiency street lighting", Mr. Martindale contended, had the following beneficial results:

1. It cut crime.
2. Reduced traffic accidents;
3. Saved lives;
4. Helped business;
5. Increased civic pride;
6. Improved real estate values;
7. Aided Police and Fire departments.

Kitchener Load Doubled During Past Ten Years

KITCHENER power load has more than doubled since 1940, according to a recent announcement by S. E. Preston, General Manager, Kitchener Public Utilities Commission.

In December, 1950 it was 45,116 horsepower, while at the beginning of 1940 it was about 22,000 horsepower.

The December, 1950, peak was 33,656 kilowatts, exceeding that of the previous year by 3,519.4 kilowatts.

GREATEST CHALLENGE

(Continued from page 7)

rates to direct customers he made this comment:

"The first contract dealt with under the new conditions expired on December 20, 1949—the rate was increased 25 percent and the annual review clause inserted."

Since that time, he continued, upon renewal of contracts or new contracts the rate had been brought in line with the cost to the adjacent municipality and in 32 cases in Southern Ontario alone, increases had been provided for, together with the annual review of rates. In fact, in two cases, a second increase was arranged at the end of the first year. The percentage increase varied in each case, the lowest being 0.5 percent, the average being 15.7 percent.

"Your Commission will not in any way attempt to break a contract. You can, however, be assured that our December 1949 policy will be carried out:— a review of rates will be made having in mind conditions as they then exist, also the rate charged to the adjacent municipalities."

Hydro would also continue to make provision for an annual rate review, he promised.

With regard to wholesale rates and adjustments to municipalities, the Hydro Chairman reviewed the situation to June 9 last, when a further increase seemed inevitable.

He then drew attention to the recent amazing load increase which had permitted him on December 13 to announce to a joint meeting of O.M.E.A. and A.E.M.U. executives that the 5 percent increase scheduled to come into effect January 1, 1951, was unnecessary.

Refunds To Municipalities

Now, these favorable conditions in load growth were to be reflected in a slightly delayed but none the less welcome "Santa Claus" present to the municipalities.

Amid sustained applause, Chairman Saunders announced that "we shall return to you in the Southern Ontario System a total of $3,266,346.78; and to municipalities in the Thunder Bay System a total of $76,557.19. Altogether, $3,342,903."

All but nine of the municipalities in the Southern Ontario System would receive refunds and all but six in the Thunder Bay System, he said.

When the vocal enthusiasm with which this announcement was received had somewhat abated, Mr. Saunders concluded his address with a word of advice and caution. It was the opinion of the Ontario Commission that the refunds should be used primarily for rehabilitation and betterment work in the municipalities, and not for rate reductions at this time and under existing conditions.

"Let us all realize," said Hydro's Chairman, "that this additional revenue is coming to us because of the tremendous load being carried by our equipment. That equipment must be maintained. It is now overtaxed. In addition, we should, each one of use, arrange betterments to give our people proper protection and proper service."

An Essential Tool

TRAINING is an essential tool of business office management for "getting the job done," Fred D. Gibson of the Bell Telephone Company told delegates attending the recent A.M.E.U. Convention.

Speaking during the Accounting and Office Administration panel on "developing good public relations through induction and training of office employees," Mr. Gibson said the need for helping employees through training never ended.

"The viewpoint of even the most experienced employee needs to be refreshed and revitalized in order to avoid a routine approach to the job," he said.

Mr. Gibson illustrated his talk with a motion picture which showed the methods used by his company in training tellers. Films were also used in the training of Service Representatives. These two groups comprised the greater part of the company's business office force—employees who came in direct contact with the public.

The company operated a "learn by doing" system of training coupled with its recognition of employees' basic needs, such as security, recognition as individuals, self-respect, and the opportunity for self-expression.

Training, said Mr. Gibson, should be recognized as only a means to an end. Training for training's sake should be avoided.

"It is essential that supervisors recognize the part training plays in the development of employees," concluded the speaker. "The job they do will be no better, as a general rule, than the training they are given."



A.M.E.U. PAST PRESIDENTS' LUNCHEON, a new event at the convention, helped renew many old acquaintances. Seated, left to right, R. S. Reynolds, Chatham; S. W. Caniff, Ottawa; J. E. Teckoe, Windsor; P. P. Yates, retired, formerly St. Catharines; Robert Butter, Owen Sound; J. C. Keith, Windsor; Carl Schwenger, Toronto Hydro. Standing, left to right: R. H. Martindale, Sudbury; R. B. Chandler, Port Arthur; A. W. Bromley, Kitchener; H. A. Howard, Thorold; G. E. Chase, Bowmanville; A. W. H. Taber, Fort William; A. W. J. Stewart, Toronto Hydro; C. E. Brown, formerly Meaford; V. S. McIntyre, retired, Kitchener; T. W. Brockinreid, formerly Port Arthur; A. L. Farquharson, Brockville; M. W. Rogers, Carleton Place; W. R. Mathieson, Secretary; W. R. Catton, Brantford; R. H. Starr, Toronto Twp.; N. J. Douglas, Smiths Falls; Ray Pfaff, St. Catharines.

1





2

Conventio

Hydro's staff photographers were on the job at this year's O.M.E.
A.M.E.U. Convention and brought back several excellent candid shots
delegates in various poses. In (1) Chippawa's Reeve George Bukat
left, recalled that he was wearing a heavy black beard at last yea
meeting as a contender for whiskerino honors in connection with
village centenary celebrations. He is congratulated on the impro
ment by Paul Ducharme, Tecumseh. (2)—A group of delegates
shown leaving the Royal York's banquet hall after an A.M.E.U. busin
session. Judging by the expressions on the faces of J. C. Hallid
Thorold, R. D. Hunter, St. Catharines and C. R. Buss, Chairman, Thor



3







Candids

U.C., (3), the convention was a complete success. The delegates in (4) alter Dixon, Arthur, W. E. Wright, Toronto Township, Frank Plant, tawa and Bert Merson, Toronto, did not feel inferior when the notographer "looked down" on them. In (5) Harry Foy, Toronto, seems be "spearing a fag" off "Dave" Nattress, Manager of Hydro's North- stern Region while another Port Arthurite, R. B. Chandler, offers to ke Mr. Nattress' generosity for granted. (6)—"Do I look like that to u?" Roy Pierson, Brantford Township, asks W. B. Macdonald, well- own *Toronto Telegram* cartoonist, after "Mac" had finished caricature Mr. Pierson, one of 12 caricatures in the current issue of *Hydro News*.

Wake Up Brother!

"Good Old Days Are Gone," Hydro's Vice-Chairman Warns O.M.E.A. Delegates



DESPITE HIS WARNING message to municipal Hydro commissioners of increased responsibilities, W. Ross Strike, K.C., was able to wear a reassuring smile as he addressed OMEA delegates at the annual convention.

A MUNICIPAL Hydro commissioner's life is no longer "a life of Riley" according to W. Ross Strike, K.C.

Hydro's Second Vice-Chairman sounded this warning when he addressed O.M.E.A. delegates at the annual convention in Toronto this year.

While outlining the duties of a local commissioner, the O.M.E.A. Past President urged each listener to "Wake up brother—our sleep is over". Declaring that "the good old days are gone", Mr. Strike compared conditions in Ontario prior to and during World War II with the situation which has existed since 1946.

"After the war came the deluge when the flood gates of deferred purchasing were released and industry strained at every seam to meet the demand," he recalled.

New houses and more factories were being built, Mr. Strike continued. Old figures about load growth and expansion had "gone out of the window".

Population was increasing at an accelerated rate. Superimposed upon this whole era of expansion, the defense and preparedness program was creating demands for power that would not even have been considered possible a few years ago.

System Improvement Urged

"This is exactly where the local commissioner comes into the picture," he continued.

It was their job, to ensure that their distribution systems would be able to carry the new loads and give customers the uninterrupted service to which they were entitled.

This meant, first, that commissioners must be prepared to spend all the money necessary to get a good job done. It also meant that they must act quickly "because many materials are going to be increasingly hard to get on schedule."

The speaker emphasized this point by stating that the Ontario Commission received almost daily reports of failures of one kind or another in municipal systems across the Province from overloading.

"Let no one fool himself," he said. "If your system is overloaded or likely to be loaded to capacity in the near future, the alarm bell is ringing and the condition will not get better but a lot worse unless something is done very promptly."

Revenue Important

Dealing with revenue, Mr. Strike claimed that too little attention was paid to this subject. With the changing conditions, it would be wise to keep both revenue and expenditures under close observation, making certain at the same time that the former was adequate, he said.

"In fairness to everyone concerned, all employees of the local utility handling funds of that utility should be bonded with reliable companies."

Insurance coverage should be checked thoroughly, and in some of the large municipalities it would not be amiss to call upon the services of insurance consultants. They could offer advice on a more complete and thorough coverage and often at reduced premium rates.

Still highlighting current problems which faced local commissioners, Mr. Strike indicated that the question of pensions and other benefits to employees should be faced squarely at this time.

"There is nothing so completely shattering to an employee who has given a lifetime of service to one organization to retire and then discover that his pension puts him practically in the pauper class," he added.

Public Relations and Publicity

The speaker also dealt with the importance of public relations and publicity. He suggested that commissioners should invite the press to be present at their regular meetings, if they were not already doing so.

"Increased expenditures and expansion needs increased support," he added.

Hydro also required intelligent and courageous planning and, above everything else, it must have men of strong character and stout hearts who would held firmly to its basic principles and maintain its present high position among the electric utilities of the world, the speaker said.

"With the help and co-operation of every member of a local utility commission, I am very sure we can make it," he concluded.

Equitable Plan

ONTARIO Hydro believes that in the new method of power costing — being used for the first time in 1951 — it has found "a workable and equitable" plan for cost allocation.

This was the opinion expressed by K. C. Coleman, Cost Accountant, Ontario Hydro, in presenting a paper on methods of costing power during the Accounting and Office Administration session at the recent A.M.E.U. convention.

He said the old traditional method of costing power in the Commission's early days was not only practicable but scientifically accurate. But, as the network became more complicated, to facilitate interchange of power and uninterrupted service, the traditional method had become unsuitable.

Therefore, the Commission had requested its financial advisors, Clarkson, Gordon & Company, to study the whole problem of determining costs and to recommend methods whereby:

1. The cost of power might be shared in the most equitable manner among the Commission's customers;
2. The immense clerical and accounting effort required in the costing process might be reduced to reasonable and economical proportions, and,
3. Anticipated growth in the Commission's enterprise might be provided for.

Mr. Coleman said the company's report was presented to the Commission in June, 1949, and was "subjected to a most searching examination."

"With only minor variations and none of these in essentials, the Clarkson-Gordon method has been found to satisfy the three requirements."

One of its advantages was the fact that "already, we have been able to effect a consolidation of our field accounts with the happy result that our management is being provided with monthly reports of operating results keyed to a budget," said Mr. Coleman.

With the continuing expansion of the system, new problems would come to the fore and would require solution.

"You may be sure that they will be approached in the spirit of finding a solution which will bring the greatest good to the greatest number without penalizing any unfortunate."

"On our part we are confident that we have a method with a high co-efficient of expansion . . ." the speaker concluded.

GEORGE BUKATOR ELECTED WARDEN

George Bukator, Chairman of the Chippawa Hydro-Electric Commission, has been elected Warden of Welland County.

4,473 EMPLOYEES

NO less than 4,473 employees are now covered by the Municipal Hydro-Electric Pension and Insurance Plan, according to a report presented at the recent annual meeting of the O.M.E.A. and A.M.E.U. in Toronto, by P. R. Locke of St. Thomas.

This number includes 402 non-contributing employees and retired pensioners. The total of the annual annuities being purchased is $5,320,299.48.

Annuity benefits paid to October 1, 1950, amounted to $1,289,687.73, Mr. Locke announced. Life insurance claims amounting to $1,226,540 have been paid to the end of the same period. The total life insurance in force was $14,305,460 on 4,375 lives, as at October 1.

The report dealt at some length with the best methods to be pursued with respect to the policy of increasing pension benefits. It was pointed out that new proposed pension benefits could not be made contingent upon changing the basis of the present Joint Deposit Account.

If a change in the present Joint Deposit Account were contemplated, all 74 municipal authorities now participating in the account would be required to agree to the change. The practical difficulties of such a situation make it impossible to hope that all 74 such municipal authorities would agree to make the required change at one time. Even if one such municipal authority declined to make the change it would be impossible to proceed.

It was, therefore, suggested that a proposed change in pension benefits be established as a supplementary plan separate from the present plan, but so integrated to the present plan that both could be administered together as a unit. This procedure would mean that each municipal authority would then have the right to either participate in the supplemental plan or not as it decided without being affected by the decision of other municipal authorities. It was further suggested that the supplemental plan be so arranged that each authority paid its own costs on a direct basis.

"The best way to test your pension plan," commented W. Ross Strike, K.C., Second Vice-Chairman, Ontario Hydro, after the presentation of the voluminous report, "is to find out what your own pension is going to be under the present scheme and also with regard to some of your employees. Then you will see how inadequate the old pension scheme really was."

Regular Inspection Important

REGULAR inspection and maintenance of network protectors and their associated relays are of vital importance to the operation of low-voltage networks, C. E. Schwenger of Toronto Hydro told delegates at the recent A.M.E.U. Convention.

Mr. Schwenger and A. L. Furanna, London P.U.C., presented papers on their experiences with low-voltage networks during the City Group Panel.

There should be a complete overhaul once a year on relays, said Mr. Schwenger, and regular operating testing of the network protectors by dropping out the high voltage feeders one at a time. This would ensure successful operation of each associated protector by checking the feed-back on the high-voltage feeders at the substation.

In addition, the network protectors should be given a complete overhaul every two years by dismantling them, replacing any burnt contacts or worn parts and adjusting the contacts and mechanism.

"In Toronto many minor defects are cleared up by these periodic overhauls, thus preventing more serious trouble later on," said Mr. Schwenger.

Mr. Furanna described the problems and advantages of the low-voltage network London has used since 1930. He also referred to the recent changeover from 25- to 60-cycle power.

"To say the least," he said, "the system was never designed to facilitate such a conversion, but changed it was."

During the whole changeover job, which necessitated an interruption in service for about 1½ hours, only one serious trouble developed, said Mr. Furanna. This resulted in the loss of about 100 feet of secondary cable when, due to a sectionalizing cut, a 1½-block-long area was fed from one end instead of the normal two. This overloaded the cable.

Mr. Furanna said that during and since standardization, the network operation had not been dependable because some protectors had not been converted, due to material shortages, and must be operated manually.

"But," he added, "when these protectors are automatic and the balance of the primary reconstruction can be completed, it is expected that the system, operating at 60 cycles, will live up to the same high standard of continuous service that it formerly provided."

Present Scrolls To Engineers

Commission Pays Tribute To Canadian Engineers By Re-naming Hydro Stations In Their Honor

PRESENTATION of framed scrolls to four oustanding Canadian engineers, after whom important Hydro projects have been named, featured a joint session of the A.M.E.U.-O.M.E.A. convention at the Royal York Hotel this year.

Hydro Chairman Robert H. Saunders and Second Vice-Chairman W. Ross Strike, K.C., made the presentations to J. Clark Keith, General Manager, Windsor Utilities Commission; E. V. Buchanan, General Manager, London P.U.C.; R. H. Martindale, Secretary-Manager, Sudbury Hydro-Electric Commission, and Ross L. Dobbin, General Manager, Peterborough Utilities Commission.

Follows Commission Policy

In naming stations and large projects after Ontario engineers, the Commission is following its policy of recognizing the service rendered by outstanding Canadian engineers.

Stations which have been named in honor of these men are the J. Clark Keith Generating Station, Windsor—formerly known as the Windsor Steam Generating Station; the E. V. Buchanan Transformer Station—formerly known as the Westminster Frequency Changer and Transformer Station; the R. H. Martindale Transformer Station—formerly the Sudbury Frequency Changer and Transformer Station, and the Ross L. Dobbin Transformer Station—formerly the Peterborough Transformer Station.

Other Stations Named

Other Ontario Hydro plants named after outstanding Ontario citizens are the former Queenston-Chippawa Station and the new Niagara project, named after Sir Adam Beck; the Richard L. Hearn Steam Generating Station, Toronto; the Otto Holden Generating Station—formerly La Cave; the A. W. Manby Transformer Station and Service Centre—formerly Kipling Transformer Station and Islington Service Centre, and the George W. Rayner Generating Station, formerly known as Tunnel Generating Station.

PRESENTATION OF framed scrolls was made to four engineers, E. V. Buchanan, London; R. H. Martindale, Sudbury; J. Clark Keith, Windsor, and Ross L. Dobbin, Peterborough, shown with Chairman Robert H. Saunders, by W. Ross Strike, K.C., Hydro's 2nd Vice-Chairman, third from left.

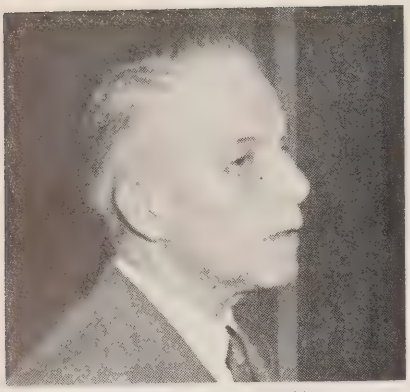




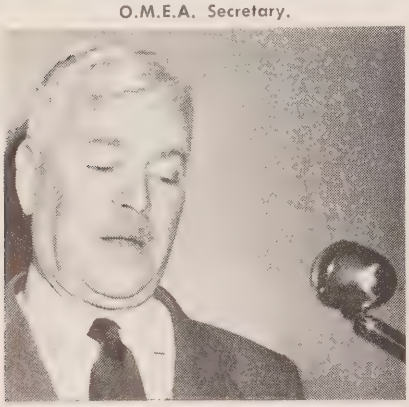




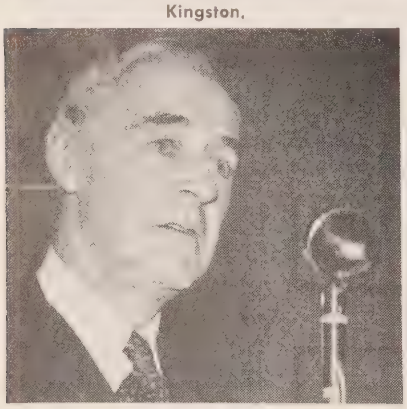
ABOVE—Aerial view of a section of the A. W. Manby Transformer Station and Service Centre, formerly the Kipling Transformer Station and Islington Service Centre, which has been renamed in honor of Hydro's Assistant General Manager—Administration (inset). LEFT—Chairman Saunders presents illuminated scroll to George W. Rayner, head of the large Toronto contracting firm which handled construction under supervision of Commission engineers at Tunnel development —now George W. Rayner Generating Station —in honor of the contractor. This issue also includes a story on Hydro's La Cave development on the Ottawa River which has been renamed in honor of Dr. Otto Holden, Hydro's Assistant General Manager—Engineering.



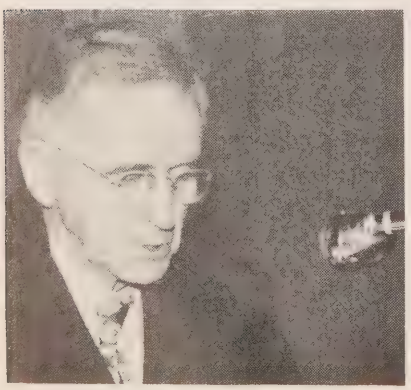
GEORGE F. HUTCHESON
O.M.E.A. Secretary.



COL. JAMES HARRIS
Kingston.



BERT MERSON
Toronto.



C. J. HALLIDAY
Chesley.

Concerning Changeover

Hydro Engineers Discuss Aspects Of Vast Standardization Program

LOCAL distribution systems should be in "first-class" condition while operating at 25 cycles to ensure a minimum of trouble after frequency standardization operations had been completed.

This was the advice given O.M.E.A. delegates by Graham A. Bell, Standardization Co-ordinating Engineer, Ontario Hydro, during their recent annual convention.

Mr. Bell joined with W. Roy Harmer, Consumer Service Engineer, Frequency Standardization Division, in presenting papers dealing with the municipal distribution system aspect of Hydro's standardization program.

Mr. Bell told delegates it was important that the supply voltage be held within acceptable limits at all times. These limits should be 111 volts minimum, and 121 volts maximum, or equivalent when supply voltage was other than the nominal 115, he suggested.

Unless the 25-cycle voltage was kept within or near these limits, standardization, with its accompanying increases in voltage regulation, might cause serious trouble.

Motors and other equipment were bound to operate differently after changeover. It had been found that higher voltages were required for starting, when operating at 60 cycles.

Additional Stations

Improvements in Ontario Hydro's voltage had been effected by installation of additional transformer stations equipped with automatic, on-load tap-changing equipment.

This had eliminated fluctuations in voltage and also partially compensated for drops in local distribution system voltages. By installation of additional transmission lines and voltage regulators, consumers voltages had been improved, in most cases, at the time of frequency standardization.

Where the volume of work had prevented completion of adequate betterments prior to standardization, complaints had been received. Mr. Bell said Ontario Hydro would spare no effort to ensure that the new 60-cycle supply would be accompanied by a more satisfactory voltage.

Referring to transformer operation, he stated that modern 25-cycle substation transformers had reactances of 5 to 5½ percent. The reactance increased at 60 cycles by 12 or 13 percent resulting in excessive, although not proportionate, increases in voltage regulation.

Hydro engineers, in general, did not recommend that transformers be rebuilt and were not rebuilding the Commission's substation transformers, he added. It was anticipated that the improved 60-cycle supply voltage would compensate for the increased voltage regulation of the local systems' 25-cycle transformers. It was expected, also, that local systems would have replaced many 25-cycle transformers with dual-frequency units before their municipality was due for changeover.

Voltage Drops

Voltage drops in 4,000 and 2,300-volt distribution lines were not usually excessive, he advised. However, any extreme cases should be remedied, in advance of frequency standardization by additional lines, heavier conductors, additional phase wires or voltage regulators.

He pointed out that 25-cycle distribution transformers were usually of low reactance. Consequently they would operate at 60-cycles with little increase in voltage regulation. Therefore, it was not necessary to change this equipment. That rule applied to transformers of capacities of 100 kva or less each. Larger transformers had comparatively higher reactance and should be considered in the same category as substation transformers.

Most complaints had been traced to voltage drops occurring in secondary circuits between the distribution transformers and the consumers' premises. Voltmeter readings had shown these drops to be as high as 15 volts, which explained why motors and oil burners failed to operate at 60 cycles.

These excessive voltage drops were caused, he pointed out, by unduly long secondaries and inadequate conductor sizes. Municipalities should make size and length of conductors conform to acceptable standards, he said.

Admitting that placing of distribution systems in shape before frequency standardization would mean a tremendous amount of work and involve considerable expenditures, Mr. Bell concluded by saying: "It is mainly work which should be done and money which should be spent anyway. You will find that your money will be returned with interest in

the form of increased revenue, decreased power losses, and improved consumer relations."

W. Roy Harmer

Mr. Harmer stressed the importance of close association and co-operation between Ontario Hydro engineers and technicians with municipal system officials during frequency standardization operations. This teamwork began when a request was received for engineering assistance in the planning and carrying out of standardization work in a municipality. Based on this request, an estimate of the cost of converting stations, distribution system, equipment and meters was prepared and forwarded for the municipal commission's approval.

Estimates, he said, should be carefully studied and also reviewed with the Regional Consumer Service Engineer. Request for authority to spend the necessary money, or to issue debentures, should be sent to Ontario Hydro for approval. When this had been given, the municipality was then in a position to take the necessary steps to provide for financing and carrying out conversion.

Meanwhile, various departments of Ontario Hydro were preparing a general conversion schedule for the area and developing the sequence of changeover for each municipality within that area. Frequency Standardization Division representatives then visited the various municipalities and discussed the location and layout of stations, feeders, transformers and power customers. Maps furnished by the local office were used as a basis for a joint physical survey. At that time, all primary lines were carefully noted. Where necessary the map was brought up to date. Transformer locations were marked and numbered, while the location and method of supply to industrial power consumers was noted.

Detailed Plans

From this preliminary information, maps were prepared indicating substation location, primary lines, switches, and convenient points of line severance. All transformers were shown and given a number, which for record purposes, would be marked on the pole supporting the transformers. The maps were used by Ontario Hydro's Planning Departments in laying out detailed plans for standardization.

All power customers, with meter numbers, were tabulated. Inventory and control sheets were prepared and forwarded to Hydro's contractor, who was authorized to inventory equipment of these power users and send a requisition for the necessary materials to make the changeover in these plants.

A second survey was made several months later, again in co-operation with the local Hydro staff. At this time, all

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THIS YEAR'S O.M.E.A.-A.M.E.U. Convention was highlighted by several presentations in recognition of noteworthy service to Hydro in some of its manifold phases. During the joint luncheon on February 27, Wills MacLachlan, Ontario Hydro, above left, presented the Canadian Electrical Association bronze life-saving medal to Frederick A. Galloway, second from right, and Certificates of Assistance to A. J. Goodchild and J. K. Naylor, members of the Toronto Hydro-Electric staff. The presentation was a sequel to an accident on November 21, 1950, when Sub-Foreman J. B. Colgan came in contact with a live terminal while standing on a ladder. Galloway kicked the ladder out beneath him while Naylor lowered him to the floor. Galloway applied artificial respiration for three to five minutes while Naylor and Goodchild arranged his position. He regained consciousness as a result of the artificial respiration. T. Sydney Pidduck, St. Catharines P.U.C., below right, was also presented with a C.E.A. medal by Mr. MacLachlan, during a recent ceremony at St. Catharines. Mr. Pidduck was severely shocked when a new power line he was laying accidentally touched a high voltage line. Ignoring his own condition, he gave artificial respiration to his fellow worker who had been rendered unconscious by the short circuit.







ABOVE—General view of the dinner given by Toronto Hydro Commissioners in honor of Mayor H. E. McCallum and Toronto City Council. INSET—Richard A. Stapells. RIGHT—Mayor McCallum, (left), J. Vernon McAree and Loftus H. Reid, Chairman, Toronto Hydro, who presided at the event. BELOW—Two groups representing some of the 45 provincial organizations who were among the guests.

NO HIGHER CALLING

Public servants lauded by Loftus H. Reid at dinner given by Toronto Electric Commissioners in honor of Toronto City Council

THERE is no higher calling than the public service rendered by men and women who serve their fellow citizens on town councils, on various boards and committees and in many other ways.

This, in brief, was one of a number of emphatic observations made by Loftus H. Reid, Chairman of the Toronto Hydro-Electric System, at the recent dinner given by the Toronto Electric Commissioners in honor of Mayor Hiram E. McCallum and the members of the Toronto City Council.

To the visitor, accorded the privilege of attending the event, it was something more than just a run-of-the-mill dinner where formal platitudes are exchanged. Primarily, it is a special occasion set aside every year by the Toronto Hydro to pay sincere tribute to the men whose lives are dedicated to serving their fellow citizens.

No finer tribute could have been paid than that voiced by Mr. Reid who acted as chairman of the evening. The embodiment of a gracious host and possessing a scintillating sense of humor, he has a tall, commanding presence and a voice which has a captivating Irish lilt. When he speaks, you hear a man who is not only a master of the well-turned phrase but one who speaks with conviction and sincerity.

No branch of government, he said, was more worthy of commendation than our civic governments. The very genius of British institutions, he emphasized, was civic government.

"This gathering tonight is a simple tribute to civic government."

Pausing at this point, Mr. Reid looked over his attentive audience and then voiced a solemn and earnest warning.

"Gentlemen," he said, "there are abroad in this land today forces whose avowed

(Continued on page 36)





POWER and PROSPERITY

Ontario's Expansion Due to Hydro In No Small Part, H. D. Rothwell Tells A.M.E.U. Delegates

"THE prosperity we see around us today, the happy balance already largely-achieved between agriculture, commerce and industry, is due to Hydro in no small part," H. D. Rothwell declared during an address at this year's O.M.E.A. A.M.E.U. Convention.

Mr. Rothwell, Hydro's Administrative Assistant—Regions, presented a forceful analysis of the expansion in Ontario's economy at an A.M.E.U. business session.

Hydro, he said, has not come to its present prominence overnight.

"It has had no mushroom growth—it has been built up stone by stone and brick by brick on solid foundations. It has taken 40 years to develop the present structure, and it will continue to develop to even more impressive proportions as it keeps pace with the growth and development of Ontario."

Mr. Rothwell traced the economic history of Ontario from the pioneer days of the 1840's. He stressed the more recent growth of major industries in order to provide "a better picture of what the Commission is doing to stimulate development and progress in Ontario."

Ontario Production

In 1890 the gross value of products manufactured in Ontario was just over $239,250,000. The estimate for 1950 is not far short of seven billion, said Mr. Rothwell.

Between 1946 and 1949, inclusive, 244 new manufacturing companies were established in Ontario and 70 more were added in 1950. The province is now producing almost half the total manufacturing output of Canada, he added.

Expansion of Ontario's industry is reflected in increased Hydro loads, the speaker said.

He cited the steel and electro-metallurgical industries, which through use of more electric power, "have been developing at an astonishing pace."

Average loads to steel and affiliated industries had grown from 48,076 kilowatts in 1939 to 195,480 kilowatts in 1949.

"Today," said Mr. Rothwell, "the steel and affiliated industries are using more electric power than was supplied to the whole Hydro system in 1916."

The pulp and paper industry, the abrasive and cyanamid industry, gold, silver and nickel mines — concerns which find electric power absolutely necessary for large-scale growth — have registered spectacular gains in recent years, he stated.

Chemical Industry

The chemical industry particularly showed signs of developing into one of the province's biggest and most important industries. Average loads to this industry had jumped from 4,555 kilowatts in 1939 to 24,702 kilowatts in 1949.

Electrical power is assuming increasing importance in the manufacture of cement and other building materials, he added.

In conclusion, Mr Rothwell emphasized the point that industrial development and the rapidly-rising standard of living, have created demands in this province "which stagger the imagination."

" . . I believe it is the duty of all those entrusted with the management of electrical utilities in Ontario to put their houses in order. Then they will be in a position to meet the extra demands that may be placed upon them in the immediate future."

Expansion Program At Windsor

A $2 MILLION expansion program launched last year, now expanded to three million — the greatest undertaken in the past 20 years by the Windsor Utilities Commission — is scheduled to be completed next year with the extension and installation of pumping and filtration facilities.

In this connection, a 42-inch water main was laid from the filtration plant across the south side of the city to McDougall Street, a distance of 4 miles to provide better distribution of water and make possible more even pressures. This will be duplicated by a similar main to serve the northerly portion of the city.

In the matter of frequency standardization, steps have been taken to ensure an equal and unimpeded changeover from 25- to 60-cycle service. Scheduled for initial service in November, 1951, this has been advanced to August 1 or earlier if found desirable.

Urges Customer Contact

MUNICIPAL electric utilities must keep close contact with industrial and commercial consumers regarding load growth. This is necessary to maintain satisfactory service, W. J. Wylie told delegates at the recent A.M.E.U. Convention.

Mr. Wylie, Manager of Toronto Hydro's Power Sales Department, was speaking on the trend of industrial power and commercial loads during one of the business sessions.

The increasing load which municipal utilities have been trying to meet becomes more diversified in type and use as it grows in magnitude, said Mr. Wylie.

"Each utility, in planning for load growth, must take into consideration factors which are peculiar to that utility alone," he added.

These factors might include the size of the utility, the general type of load, ratio of large to small loads, and matters of local policy.

"However, there are factors which are fundamental to all utilities in their planning to meet the trends of industrial and commercial power loads."

Outlining the trends of industrial and commercial load growths, Mr. Wylie said that in 1940 an average of about four kilowatthours a man-hour were used in United States industry and by 1950 this had increased to about six kilowatthours a man-hour.

This trend would continue, it was anticipated. Therefore, to provide a service acceptable to an industrial consumer today, the utility must plan and arrange for four main requirements:

1. Continuity of supply.
2. Minimum voltage variation.
3. Freedom from voltage fluctuations.
4. A minimum of consumer service equipment cost.

Changes in industrial production methods and normal growth of communities' business sections resulted in sudden load increases. Unless this fact was kept in mind, said Mr. Wylie, the supply facilities of the utility might be subjected to unexpected load conditions before adequate provision had been made to maintain a proper surplus in transformer or feeder facilities.

Reasonably close contact must, therefore, be maintained between the utility and consumers so that consumers' plans would be indicated in sufficient time to permit the necessary steps to handle increased loads.

CANADA STANDS READY

(Continued from page 14)

international trade which are of national concern. The construction of the St. Lawrence Seaway and the realization of its hydro-electric power potential would mitigate power shortages for many years to come. In addition, it would provide the many strategic and commercial advantages with which we have all become acquainted through the many years which have elapsed since the Seaway project was proven feasible."

The project, he stated, had been agitating public opinion for over a hundred years. It had been the subject of discussions with the U.S. for the last fifty years. These negotiations had culminated in the signing of an agreement by Canada and the U.S. in 1941. That agreement, which Canada believed was the best for all parties concerned, provided for a 27-foot channel from the head of the lakes to Montreal, and the joint development of 2,200,000 horsepower of energy in the international section of the river.

The project, Mr. Chevrier maintained, was unquestionably urgent from the standpoint of national defence. Without the seaway there could not be expeditious and economic movement of the large reserves of high grade iron ores in Labrador to the steel centres in the region of the Great Lakes.

The prosperity of Canada was, to a very large extent, dependent upon industrial production and that the latter was impossible without power. Hence, the benefits of the great waterway project to both Canada and the United States were incalculable.

In conclusion, Mr. Chevrier stated: "The friendly relations existing between Canada and the United States for well over a century have been greatly enhanced by two world wars. These wars, and particularly the last one, have brought us together more than ever before. They have shown that on many problems not only do we think alike but, frequently we act together. Such was the case at Ogdensburg, on the Joint Permanent Defence Board; at Hyde Park, on the Alaska Highway; in the Northwest Passage, and perhaps more particularly in the air by means of our trans-border services. Our governments think alike on the development of the St. Lawrence Waterway. I believe the vast majority of our people think alike, but we must translate this thinking into action. We must act together upon it so that, to use the words of a great British statesman, in the days to come the Canadian and American peoples will, for their own safety and the good of all, walk together in majesty, in justice and in peace."

Better Than Last Year

IN spite of the influenza epidemic, there was a larger number of delegates present at this year's annual convention of the Ontario Municipal Electric Utilities than was recorded in 1950.

At the final session of the O.M.E.A. on February 28, H. R. Henderson of Woodstock, Chairman of the Registration Committee, announced an attendance of 1,017 "not counting wives." The attendance last year was 995.

"This is a very heartening announcement," observed D. P. Cliff, O.M.E.A. President. "It certainly shows what an interest is being taken by all the municipalities in the problems that come up for discussion and often for final decision at this annual meeting."

NO HIGHER CALLING

(Continued from page 34)

objective is the destruction of every vestige of freedom which we as Canadians enjoy. Each one of us," he continued, "must be on the alert, at all times, to defend our institutions which have given us the greatest freedom and the highest standard of living in the world."

Next, he took to task, all irresponsible citizens who engage in "idle chatter" and who sought to portray public life as something "mean and unworthy". He could think of nothing more disastrous than young people being influenced by such ideas and went on to pay sincere tribute to the people who enter public service to serve their fellow men and he emphasized Toronto's proud record of civic government.

Names Former Mayors

When Ontario Hydro Chairman Robert H. Saunders, himself a former Mayor of Toronto, was called upon to speak, he directed attention to the fact that in the room were other former Mayors. He called upon Col. the Hon. Reginald Geary, Major Bert Wemp and W. D. Robbins to stand for recognition by the audience.

When discussing the operations of Hydro, Mr. Saunders directed attention to "the truly marvellous job" which had been done by Richard L. Hearn, the Ontario Commission's General Manager and Chief Engineer.

The speaker also expressed warm appreciation for "the wonderful co-operation" which had been given by George Lawrence and his committee on conservation over the past three years. "They did an outstanding job in helping save highly necessary power," said the Hydro Chairman who also referred to the all-important saving effected by the cities of Hamilton, Oshawa and Toronto remaining on Daylight Saving Time.

Mayor Hiram E. McCallum also took the opportunity to say a special "thank you" to individuals and groups who devote much of their time to voluntary service on hospital and other boards and in various public service organizations.

Praises Citizenship Participation

"If it were not for these groups who serve in a voluntary way to make Toronto tick we would have a difficult time," said the Mayor. "As long as we have citizenship participation we are going to have good government."

One of the highlights of the evening's program was the warmth of the spontaneous welcome accorded Bert Merson, one of the Toronto Hydro Commissioners, who was making his first public appearance in ten weeks. Mr. Merson had left a sick bed in order to attend the dinner and propose the toast to "The City of Toronto and the Town of Leaside."

E. M. Ashworth, General Manager and Chief Engineer of the Toronto Hydro, who has forty years of outstanding public service to his credit, spoke briefly. "We feel," he remarked, "that the best way to maintain good public relations is to give good, low-cost service and, above all, to take a great deal of trouble with the people who come to us with complaints and try to satisfy them."

J. Vernon McAree, widely-known columnist of The Globe and Mail, who was a special head table guest, said he had watched Toronto grow for a great many years — fifty or more — and the city had had civic government which was unsurpassed anywhere on this continent or in Great Britain. "Where," he said, "could you get a better group of men than Geary, Wemp, Robbins, Saunders (former Mayors) and McCallum?"

A number of other speakers including Warren Bolton of Windsor and Richard A. Stapells also spoke.

In making reference to the success of the event which was attended by representatives of some forty-five provincial organizations, including the municipalities of Leaside and Windsor, Chairman Loftus H. Reid expressed the appreciation of the gathering to Douglas G. Moffit of the Toronto Hydro who, he said, was to be highly commended for a very fine job in making all the necessary arrangements for the gathering.



New Galt Manager



NORMAN A. GRANDFIELD

NORMAN ALBERT GRANDFIELD was recently appointed General Manager of the Galt Public Utilities Commission. He succeeds J. E. Teckoe, Jr., who is now Assistant Manager of Windsor Utilities Commission.

Mr. Grandfield was born in Somerset, England, but came to this country at an early age. He attended Public and Secondary schools in Hamilton, Ontario, and later graduated from Queen's University with a Bachelor of Science degree.

During World War II he served with the Royal Canadian Navy and also with the Royal Navy as a radar officer.

Following the war Mr. Grandfield was Assistant Engineer with the H.E.P.C. Municipal Department for two years, and for the past 3½ years he has been Assistant Manager of the Brantford Public Utilities Commission. He is a member of the executive of the Association of Municipal Electrical Utilities, and a past-president of the Brantford Junior Chamber of Commerce.

New Substation Opened at Dundas

WITH the closing of the switch at the new substation on Baldwin Street, another phase in the decentralization of Dundas Hydro System was completed recently. The construction of this new transformer station makes possible the division of the town into three districts, each served by its own station.

This is another step in the modernization of the town's Hydro plant and is part of the long-range program that will make the local system more flexible and efficient.

It is possible under the new arrangement to shift loads from one station to another to allow for line repairs or to balance the loads. This will facilitate service work without serious interruptions.

B. L. DETLOR PASSES

Bismark Leroy Detlor, aged 74, former Chairman of the Deseronto Public Utilities Commission, died recently at his home.

A resident of the town for 55 years, he had served on the local Commission for 10 terms. From 1932 to 1940 he owned and operated the Deseronto Post, the town's weekly newspaper. He also operated a bakery for almost 40 years until it was destroyed by fire several years ago.

Mr. Detlor was an ardent fisherman and spent many of his leisure hours at his camp on the Bay of Quinte. He is survived by his widow, the former Winnifred Moore; a son and three grandchildren.

GEORGE FAIRWEATHER DIES

George Fairweather, aged 68, former Toronto Hydro-Electric System employee died recently. A native of Scotland, Mr. Fairweather had been with the Toronto Hydro for 37 years. He was a member of Stevenson Lodge, AF and AM, the Rani Ghar Grotto and St. Columba's United Church. He is survived by four daughters and one son.

WITH CITY HYDRO OVER 25 YEARS

Routliffe L. Westcott, former employee of the Toronto Hydro-Electric System, died recently at the Toronto Western Hospital.

Mr. Westcott, who had been with the Toronto Hydro for more than 25 years, retired several years ago. He was born in Peterborough and in his youth had been a lacrosse player. He had been active on both the Toronto Hydro Lawn Bowling and ten-pin bowling teams. He is survived by one daughter and three sons.

D. J. McGREGOR DIES SUDDENLY

David J. McGregor, aged 67, Meter Reader of the Woodstock Public Utilities Commission, died suddenly at his home recently.

Born in Edinburgh, Scotland, he came to Canada in 1910, and to Woodstock in 1911, where he had resided until his death. He had been employed as a Meter Reader by the local Commission for the past 25 years and was widely known throughout the city.

A veteran of the First World War, he was a member of the Woodstock branch of the Canadian Legion, a member of Chalmers United Church, and for several years had been Treasurer of the Sunday School.

He is survived by his widow, the former Helen Hampson, one son and one daughter.

TV VIEWS

Television is a good load for a municipal system and will increase revenue considerably, St. Catharines P.U.C. Manager tells A.M.E.U. audience

"TELEVISION is an appliance which is causing more problems for our system than any other appliance in recent years!"

This remark was one of the highlights of an address by Ray Pfaff, Manager, St. Catharines P.U.C., to members of the A.M.E.U. during their recent annual convention in Toronto. He was speaking on "Television and Its Effect on Domestic Loads."

Mr. Pfaff's observation was not a criticism of this new appliance, but a forewarning to other municipalities of what to expect with the advent of Canadian television.

Referring to a recent study conducted by the St. Catharines Commission, the speaker declared that television, while creating an increase in demand, thus bringing in more domestic revenue, would not increase the cost of power appreciably.

The St. Catharines survey showed that the average load per set was about 300 watts, he said. As this additional demand occurred largely in the evening, it did not affect the peak load in St. Catharines.

However, television might conceivably have an effect in this respect in places where the peak occurred in the evening. This would greatly increase the cost of power to the municipality.

"We find in the areas that have heavy evening loads, television is having a decided effect upon the type of system that has to be constructed as it has definitely raised the demand of consumers in that area," Mr. Pfaff said.

Actual tests on sets where demand meters were installed indicated demands ranging from 250 to 560 watts, bringing television into the class of one of the large appliances.

The St. Catharines survey showed that the total kilowatthour consumption of the 67 homes tested rose from 34,780 kwhrs. to 38,420 kwhrs. in two months—an increase of 3,640 kwhrs. or 10.5 percent!

On actual tests of the sets themselves, consumption ranged from 128 to 512 kwhrs. per two-month billing.

Consumption Increased

The original belief that television would not affect the consumption of electrical energy in the homes to any great extent as people would not use as much lighting when television sets were in operation, had not been substantiated, the speaker also pointed out.

"In our survey of the 67 homes tested, we found the kwhr. consumption increased in all but two homes where elderly people resided."

Thus, it had been decided in St. Catharines to treat television as "a considerable load-building appliance," Mr. Pfaff said.

"We also look for a slight increase in the cost of power to the municipality by the raising of the domestic load factor for which television will be greatly responsible."

Voltage Regulation

Elaborating on voltage regulation and television interference, the two main problems encountered by the St. Catharines Commission in connection with the in-

(Continued on page 40)



O.M.E.A. EXECUTIVE for 1951 elected at the recent joint convention held in Toronto. Front row, left to right, Col. J. Harris, Kingston, Director; D. P. Cliff, Dundas, President; G. F. Hutcheson, Huntsville, Secretary-Treasurer; T. Barnes, Niagara Falls, Director. Back row, left to right, C. J. Halliday, Chesley, Honorary Vice-President; A. O. Leslie, Toronto; Vice-President, District Five; W. A. Theaker, Paisley, Vice-President, District Four; D. P. Herring, Sarnia, Director; F. H. Plant, Ottawa, Vice-President, District One. Other officers absent when this photo was taken are: W. Watterson, Welland; C. K. Merner, New Hamburg; G. H. Fuller, Windsor; G. E. Finley, Carleton Place; H. Robertson, Barrie; W. P. Dale, Brampton; L. Reid, Toronto; R. Pierson, Brantford Twp.; C. W. Gordon, Kitchener; and Warren P. Bolton, Windsor.

INCREASED FACILITIES LAUDED

(Continued from page 19)

stated. Under such a system, probably all the linemen of a stricken town could act as foremen in charge of crews from other cities, who, although unfamiliar with the system, would still be efficient under supervision.

Mr. Butter again stressed that he felt such a suggestion merited consideration by the members of the executive.

Turning to the A.M.E.U. report on standardization, Mr. Butter said the members would note that many of the predictions in the report had become facts, and that many of the recommendations had been found essential and were now being incorporated in the changeover policy.

"Since the municipalities supply 65 percent of the total revenue received by the H.E.P.C. it is only fair to expect that they have a strong voice in Hydro policy and operation," he said. "If we are to continue to have a sound Hydro in Ontario, then the A.M.E.U. must become stronger, non-political, and have a definite place in Hydro to protect the interests of the municipalities," he continued.

To conclude, Mr. Butter discussed the Association's existing Pension and Insurance plan. He said although it had been excellent ten years ago it now seemed quite inadequate. In comparison, he thought the H.E.P.C. plan provided far more for their employees, and trusted that the recommendations made by the committee would be received favorably by the O.M.E.A.

VOTING RESTRICTED

(Continued from page 17)

Canada, the Premier of Ontario and The Hydro-Electric Power Commission of Ontario.

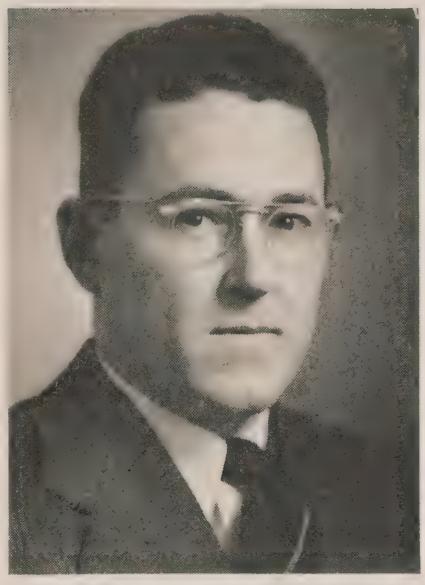
That the O.M.E.A. go on record as approving the program of "Electrical Safety Week," and that the Association appoint a representative from its Executive to the advisory committee.

That the H.E.P.C. be requested to provide personnel and facilities to assist the A.M.E.U. and the O.M.E.A. in formulating standards of design, construction and maintenance for municipal electric power distribution.

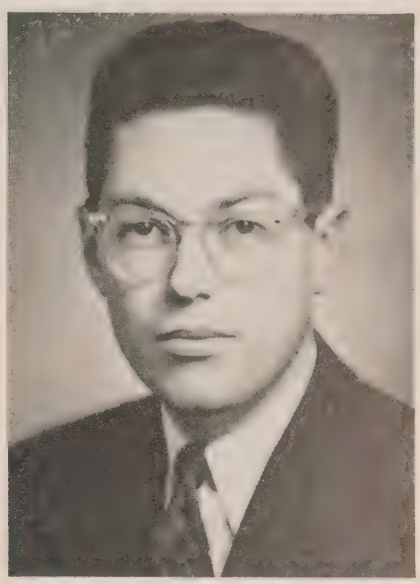
That the H.E.P.C. be asked to include more supervisory personnel with Public Relations and Job Relations training on its Frequency Standardization programs.

Resolutions of appreciation were passed with respect to *Hydro News,* the hotel staffs, the Press and entertainment committees.

Hydro Research Engineers Honored



J. R. LESLIE



W. J. CHEESMAN

IN recognition of noteworthy research, two Ontario Hydro research engineers have been honored by the American Concrete Institute's 1950 award of the Wason Medal.

The medal, presented for original research on a subject relevant to the ACI's activities, was awarded to J. R. Leslie and W. J. Cheesman, both of the Commission's Research Division, for the development and application of the Soniscope. This instrument applies ultrasonics to the study of the durability of concrete and other masonry materials.

Since 1947, when the first Soniscope was completed in the Research Division, the instrument has gained international recognition as the foremost tool for concrete study developed in recent years.

Originally intended for detecting cracks in large dams, this non-destructive method of testing has proved valuable in appraising the condition of concrete and in measuring its rate of strength development. It has been used extensively in research projects and in the examination of field structures.

Interest in the instrument has also developed on an international scale. Inquiries have been received from concrete engineers in several foreign countries.

Mr. Leslie graduated in engineering physics from the University of Toronto in 1938. He immediately joined the staff of the Commission's research and testing department. His early electrical research experience was followed by war work as a civilian scientist with the National Research Council, Ottawa, and the Minesweeping Section of the Admiralty in England. Upon his return to Hydro after the war, he applied the background in ultrasonics, acquired during his war work, to the development of the basic features of the Soniscope. His knowledge of electronics has enabled him to play an important part also in the Research Division's recent development of the Bolometer for detecting overheated transmission line joints; the Linascope for locating faults in transmission and communication circuits, and in several other significant research projects involving electronics. Mr. Leslie has published several papers on work in electronics and physics, and is a member of the American Institute of Electrical Engineers.

Mr. Cheesman is also a graduate in engineering physics, 1943, University of Toronto. After graduation he served with the Royal Navy as a Radar Officer. For fifteen months following his return from war service, he was on the works laboratory staff of the Canadian General Electric Company's Davenport Works. He joined the staff of the Commission's Research Division early in 1947. Since that time he has worked on the development and application of the Soniscope. Field studies of concrete structures, and applications to tests of laboratory specimens have been conducted mainly under his direction. Mr. Cheesman works on various problems related to the durability of concrete, and also on physical problems in other fields. He is a member of the American Concrete Institute.

The medal was presented to Mr. Leslie, representing the co-recipients, by the President of the American Concrete Institute at its 47th Annual Convention luncheon held recently at the St. Francis Hotel, San Francisco.

CONCERNING CHANGEOVER

(Continued from page 33)

domestic and commercial services were listed. The address, folio number and meter number of each service was recorded, the details of the secondary distribution system were studied and listed. This further system data was added to the maps and Ontario Hydro's Engineering and Planning Departments proceeded to lay out a detailed conversion schedule, setting out for each day the work which the contractor's conversion crews could handle. These detailed plans were passed on to the local system superintendents so that they could prepare for the necessary work required to disconnect the 25-cycle and connect the 60-cycle supply of power to those customers whose equipment was being changed.

In addition, the domestic and commercial customers' names, addresses, supply transformer numbers, and other data were recorded on tabulating cards at head office. From these cards, consumer lists were prepared and sent to Hydro's contractor with instructions to make an inventory of the frequency sensitive equipment. After making the inventory, the contractor determined the parts necessary for conversion and requisitioned them from Hydro stores.

Work could be greatly reduced if complete, up-to-date records of each local distribution system, equipment and consumer data were made available, Mr. Harmer said. This should include detailed maps, correct classification of commercial and power customers, and accurate billing records with names, addresses, folio numbers and meter numbers for all domestic customers. Many customer complaints could be eliminated if accurate records containing this information were set up during the initial stages, he added.

Area Offices

A few weeks prior to standardization work, a Hydro area office was opened in the municipality. This office was under the direction of an area project manager who has planning and negotiation engineers and an area service manager as his assistants. The contractor also established an area office and warehouse. Throughout the whole conversion operation, close liaison was maintained with the local Hydro staff.

Mr. Harmer announced that steps were being taken now to make 60-cycle power available to most of the large municipalities in the 25-cycle area in the near future. He said that this did not mean that planned conversion work by the Commission's contractor would be carried out at an earlier date than presently scheduled. But it did mean that 60-cycle power would be available to these municipalities for supplying new customers and major extensions to existing loads. It also would give municipalities wishing to hasten the change to 60 cycles, an opportunity to organize and carry out the changeover work locally, in conjunction with Ontario Hydro.

Cliff Re-elected OMEA President

DAVID P. CLIFF, Dundas, was re-elected President of the Ontario Municipal Electric Association at the annual three-day joint convention of the O.M.E.A. and the A.M.E.U. this year.

Mr. Cliff has played a prominent part in municipal affairs in the past having held the positions of Dundas Town Councillor, Deputy Reeve, Reeve and Mayor, 1945-46.

Geo. F. Hutcheson, Huntsville, remains Past President as well as Secretary-Treasurer.

Elected Honorary Vice-Presidents were: F. Biette, Chatham; K. A. Christie, K.C., Toronto; C. J. Halliday, Chesley; H. O. Hawke, Galt; A. G. Jennings, East York (since deceased) and G. S. Matthews, Peterborough.

Vice-Presidents elected for the various districts were as follows: District One, F. H. Plant, Ottawa; District Two, W. A. Theaker, Paisley; District Four, A. O. Leslie, Toronto; District Five, W. Watterson, Welland; District Six, C. K. Merner, New Hamburg; District Eight, G. H. Fuller, Windsor. Districts Three and Seven were left open pending local elections.

Directors elected for the coming year were: G. E. Finley, Carleton Place; Col. J. Harris, Kingston; H. Robertson, Barrie; W. P. Dale, Brampton; L. Reid, Toronto; R. Pierson, Brantford Twp.; T. Barnes, Niagara Falls; G. W. Gordon, Kitchener; D. P. Herring, Sarnia, and W. P. Bolton, Windsor.

THEN — AND NOW, TOO!

"Enthusiasm for the proposed St. Lawrence deep waterway and the Great Lakes regions was shown at a gathering of the National River and Harbor Congress in Washington, D.C." — From the files of the Windsor Daily Star, December 9, 1925.

TV VIEWS

(Continued from page 38)

creased installation of TV sets, Mr. Pfaff recommended that a voltage regulation standard be set up by the A.M.E.U. and the H.E.P.C. He also suggested manufacturers of TV sets set up a more advanced training system for television servicemen to assist them in providing maximum service to their customers.

In addition, he urged the Federal government establish, as soon as possible, facilities to take care of television interference. This, he said, would relieve the utility of a great deal of trouble and expense.

Rogers Elected AMEU President

MORTON W. ROGERS, Manager, Carleton Place Public Utilities Commission, was elected President of the Association of Municipal Electrical Utilities for the 1951 term. He succeeds Robert Butter of Owen Sound.

Election of the A.M.E.U. officers took place during the joint convention of the A.M.E.U. and the Ontario Municipal Electrical Association, held at the Royal York Hotel, Toronto, February 26, 27 and 28.

Mr. Rogers, who was elected the Association's Vice-President in 1950, has held the position of P.U.C. Manager at Carleton Place since 1924. He was educated at Perth, Ontario, and is a graduate engineer (civil) of the Armour Institute, now known as the Illinois Institute, Chicago.

Other members of the 1951 A.M.E.U. executive are: Vice-President, R. H. Martindale, Sudbury; Directors: N. A. Grandfield, Galt; R. S. Reynolds, Chatham; O. H. Scott, Belleville.

District Directors are as follows: Western, V. A. McKillop, London; West Central, E. A. Washburn, Stratford; Niagara, H. A. Howard, Thorold; Toronto, G. Lillie, Toronto Hydro; East Central, G. E. Chase, Bowmanville; Georgian Bay, Wm. G. Lane, Collingwood; Eastern, N. J. Douglas, Smiths Falls; Northwestern, A. W. H. Taber, Fort William; Northeastern, S. R. Walkinshaw, North Bay.

I WISH I'D SAID THAT!

A GAME TO INCREASE YOUR VOCABULARY AND IMPROVE YOUR CONVERSATION

By Lincoln Hodges

EVER miss the point, say the wrong thing, and then blush? Here's an exercise in the art of conversation. First comes a statement that's made to you; then three possible replies you might make, only one of which proves that you get the drift. You pick the one. If you pick 19 or 20 right, you're superb; 17 or 18, just wonderful; 14 to 16, average-plus. Answers are below:

1 "The child's howling like a BANSHEE."
A Every child loves to play Indian.
B That's the spirit!
C Exiled?

2 "He's an ITINERANT worker."
A Shiftless.
B Shifting.
C Shifty.

3 "He FLOUTS authority."
A Defies it.
B Denies it.
C Decries it.

4 "We stood with arms AKIMBO."
A On your hips?
B Outstretched?
C Folded?

5 "I'd like to try a PUCE jacket."
A Sorry, no dark brown.
B Something in green?
C Here; just the right yellow.

6 "Is he a DROVER?"
A No; he's a cattleman.
B No; he's a shepherd.
C No; he's a teamster.

7 "His speech was sheer CASUISTRY."
A Earsplitting!
B Sidesplitting!
C Hairsplitting!

8 "What's needed to make a PALINDROME?"
A Bread and circuses built the Colosseum.
B A central location for the airport.
C A man, a plan, a canal—Panama.

9 "They booed his FLACCID answer."
A Wishy-washy?
B Topsy-turvy?
C Hoity-toity?

10 "He's working on a LIBRETTO."
A An endowment?
B An opera?
C A bibliography?

11 "She's so MALAPERT."
A She doesn't fit in.
B Her words don't fit in.
C Her manners ain't fittin'.

12 "Where's your KETCH?"
A Across the bay.
B Behind the bars.
C Inside the bag.

13 "Tonight there'll be a CRESCENT moon."
A Full?
B Waxing?
C Waning?

14 "We're almost all HELOTS, aren't we?"
A Slaves to something
B Fanatics about something.
C Worshippers of sunshine.

15 "Every tree is perfectly LIMNED."
A Well fertilized!
B Well pruned!
C Well drawn!

16 "He's a PLAGIARIST."
A Knows his cholera?
B Steals his ideas?
C Breaks his promises?

17 "His fortune is FABULOUS."
A Nonexistent?
B Exaggerated?
C Incredibly big?

18 "He's a CAVILER by nature."
A So polite!
B So cautious!
C So critical!

19 "He was a SUTLER in Civil War times."
A A trader?
B A traitor?
C A trooper?

20 "They found the nugget was IGNEOUS."
A Full of iron?
B Formed by fire?
C Void of value?

ANSWERS

1 B A banshee (BAN-she) is a wailing female spirit in Irish and Scottish folklore.

2 B Itinerant (i-TIN-er-unt) means traveling from place to place, especially in the course of one's occupation; for example, a peddler.

3 A To flout (flowt) is to treat with contempt, or defy mockingly; it comes from an old English word akin to flute, and perhaps it was once considered contemptuous to blow a flute at someone.

4 A Akimbo (uh-KIM-bo) means with the hand on the hip and the elbow turned out.

5 A Puce (pewce) comes from the French word for flea, but it means a dark reddish-brown color.

6 C A drover (DRO-ver) is not a teamster; a group of cattle or sheep driven to market is called a "drove," and the man who drives them or deals in them is a drover.

7 C Casuistry (KAHZ-u-iss-tree) is false reasoning, usually based on petty, hair-splitting arguments.

8 C A palindrome (PAL-in-DROME) is a word or sentence whose letters spell the same thing forward and backward. The word "level" is a palindrome; and so is the sentence in the answer "C."

9 A Flaccid (FLACK-sid) means flabby, as does the Latin word it comes from; a flaccid person is weak-willed or yielding.

10 B A libretto (lih-BRET-o) is the "book" of an opera—the words, or text of an opera or any extended choral arrangement. It is from the Latin, *liber*, meaning book.

11 C Malapert (MAL-uh-pert) means impudent or saucy; it is often confused with *maladroit* (clumsy) and *malapropism* (a misuse of words).

12 A A ketch is a small sailing vessel.

13 B Crescent (KRESS-unt) means increasing, from the Latin *crescere*, to increase; the shape of the moon when it is waxing, or growing, is therefore called a crescent.

14 A A helot (HELL-ut or HE-lut) is a slave, because the serfs of ancient Sparta were called Helots.

15 C To limn (lim) is to draw, to portray; it is akin in origin to the word "illuminate."

16 B A plagiarist (PLAY-juh-rist) is a literary—or musical—thief; one who steals another's ideas and signs his name as author.

17 A, B, and **C**—all three are correct, for fabulous (FAB-u-lus) can mean fictitious, exaggerated, or tremendous.

18 C A caviler (CAV-il-er)—that is, one who cavils—is one who raises trivial objections; a faultfinder. The Latin *cavilla* means bantering jests.

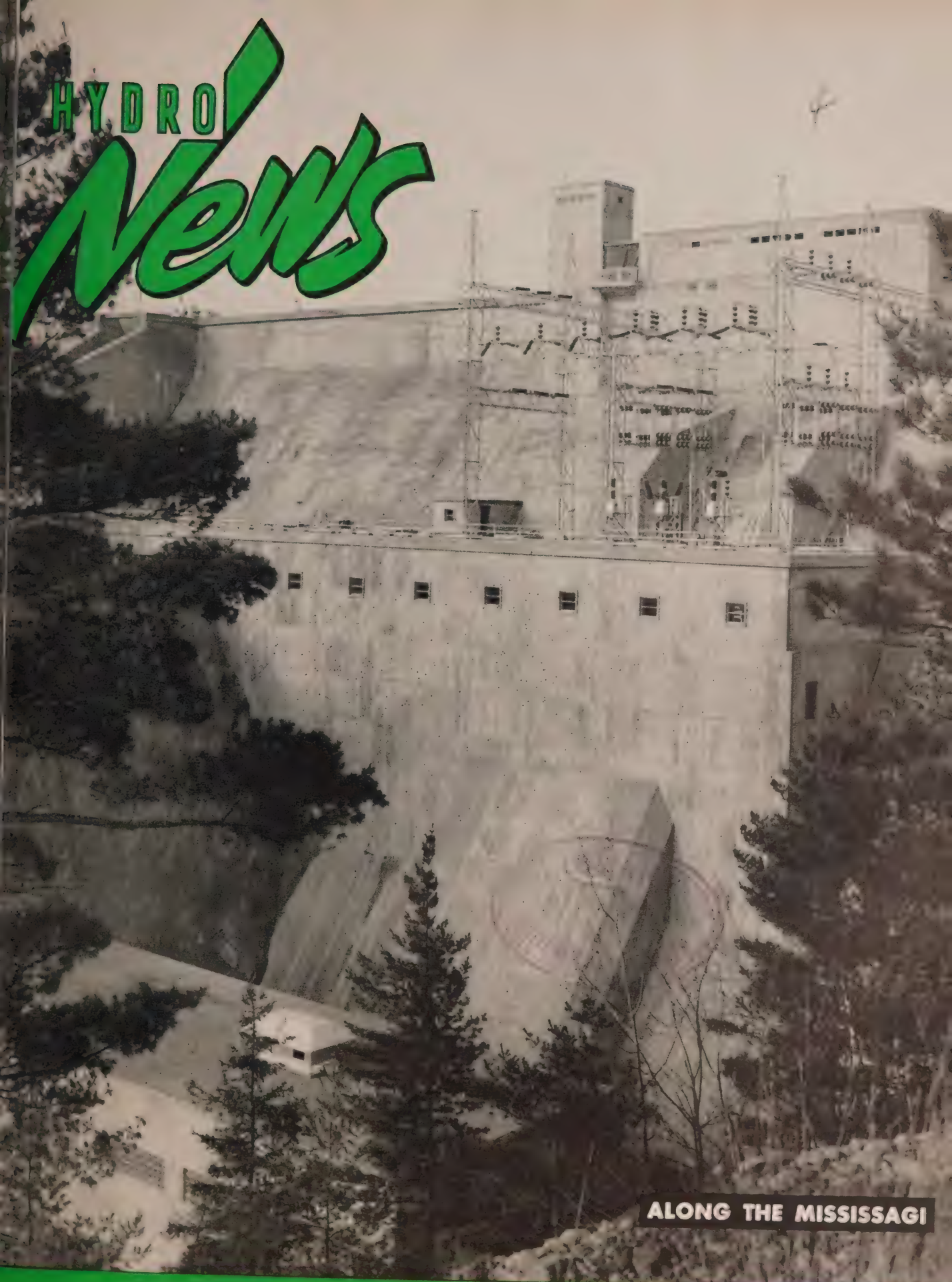
19 A A sutler (SUT-ler) is a tradesman who follows an army and sells personal supplies, refreshments, etc. to the troops.

20 B Igneous (IG-nee-us) means formed by fire or heat, or relating to fire in any way; the Latin word *ignis* means fire.

—REPRINTED FROM COSMOPOLITAN


SPRING FRESHET

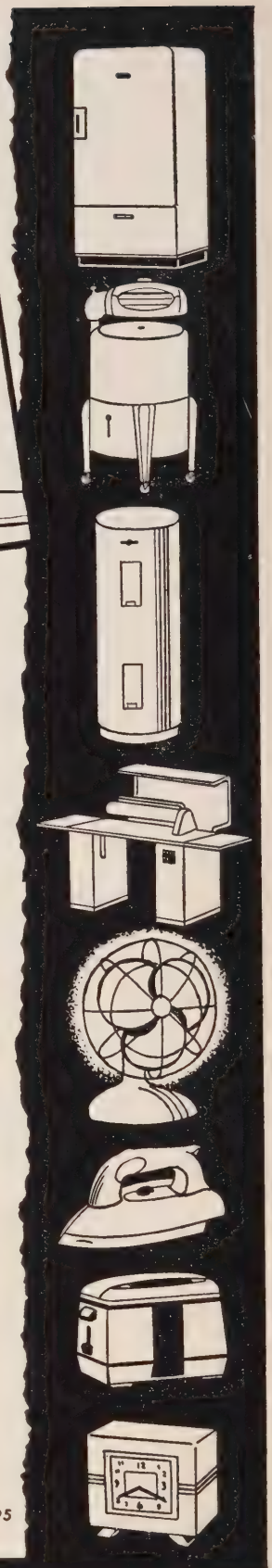
HYDRO News



ALONG THE MISSISSAGI

VOL. 38 APRIL, 1951 NUMBER 4





WIRE WISELY - LIVE WELL

Electricity, properly used, brings modern service and convenience to your fingertips. It adds to the ease and enjoyment of living, it places a host of "electrical servants" at your beck and call twenty-four hours of the day. But the extent to which you can use these electrical servants depends upon how wisely your home is wired.

Inadequate wiring is inefficient . . . even dangerous. *Adequate* wiring lets you operate your lighting and appliances at peak efficiency at all times. What is adequate wiring? Briefly, it means the correct size of three wire service to the house, the proper number of circuits and correct size of wire within the home, together with sufficient outlets in each room to take care of your electrical requirements both today and in the future.



THE FUSE

When too great a load is placed on a circuit, or when a "short" occurs, the fuse "burns out" and cuts off the power. This is your protection. BE SURE TO REPLACE A FUSE WITH THE CORRECT SIZE.

Thanks to "power at cost" you can economically use all these electrical servants in your home—*if* you have provided for them. Be sure, whether you plan to build or remodel, that adequate wiring has top priority on your check list of things you need. We will be glad to help you solve your wiring problems.

The Hydro-Electric Power Commission of Ontario

2295

HYDRO News

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 UNIVERSITY AVENUE, TORONTO

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Volume 38 Number 4

April, 1951

COVER SHOT

THREE years ago the turbulent Mississagi River was hurling itself through the narrow gorge where now stands the George W. Rayner Generating Station depicted in this month's front cover photograph by Hydro Photographer E. A. Johnston. The plant was officially opened on June 14, 1950.

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Stores Standardization

IN this issue, *Hydro News* directs attention to another Commission program of standardization which has already effected significant and wide spread benefits on behalf of Hydro and the people of this province.

This project, of course, bears no relationship to the now-familiar Frequency Standardization Program which the Commission is carrying out in the 25-cycle areas of its Southern Ontario System.

Standardization, in this case, means, primarily, the elimination of unsuitable and obsolete items of equipment or materials and the selection of the best type to meet the particular requirements of each job.

The task of reducing the wide variety of materials and equipment, purchased and used by the Commission in its extensive maintenance and construction operations, might appear almost impossible to the casual observer.

In less than a year, however, the Standards Committee appointed by Hydro's General Manager and Chief Engineer, Richard L. Hearn, to supervise and co-ordinate this plan, has made gratifying progress.

During this time, 16 materials committees, composed of various Commission department representatives, aided by sub-committees, have been investigating and recommending changes in regard to materials used in their respective fields.

A representative of *Hydro News* has attended meetings of these groups in order to understand more fully the part each committee plays in the overall program. At a recent meeting, for example, one of the committees, after careful study, recommended that 16 items — out of a total of 41 listed under aluminum wires and cables — be retained as standard items, while 15 were eliminated.

Reductions in the variety of items purchased and used by the Commission is not, however, the sole object of the standardization program. Those charged with this responsibility are also directing their efforts toward the sub-division of materials into classificatons for purposes of cataloguing and records, as well as establishing a standard nomenclature and adequate specifications for all types of material.

Lack of space precludes a full account of the benefits to be derived from this process of standardization. Hydro's new Standards Catalogue lists 29 specific advantages including noteworthy financial economies as well as valuable savings in time and space devoted to the ordering, storage and supply of materials.

It is difficult, at this comparatively early stage, to accurately assess the far-reaching effects of this program. But, in considering the project in its entirety, there seems to be ample justification for the belief that Hydro has taken another major step in fulfilling, even more efficiently, its primary function of serving the best interests of the people of Ontario.

Investing in Humanity

THE story of human need is a never-ending drama. This fact lends special significance to the annual appeals for financial support from three nationally-known agencies.

The Canadian National Institute for the Blind has announced that spring campaigns in the 14 Ontario field districts are now in progress and will continue through May. In launching its 1951 drive, the Institute has prepared an informative brochure which graphically describes the Institute's invaluable work among more than 18,000 sightless Canadians.

While the Institute serves primarily to provide the necessary assistance that will enable blind people to take their place as self-reliant citizens in fields of useful enterprise, it is also active in the prevention of blindness. In this connection it distributes pamphlets on better lighting; sight saving classes; vision of school children, and other subjects.

On May 1, the Salvation Army will inaugurate its 1951 Red Shield Appeal with a national objective of $1,500,000. "The Army" is now operating over 100 large institutions in Canada. The activities of these institutions are further supplemented by a variety of other social welfare work. This internationally-famous organization strives at all times to make its efforts self-supporting, but, sometimes this is not always possible. The Red Shield Appeal is designed to make up the deficit incurred in helping to alleviate human distress and misfortune.

Equally noteworthy is the current campaign of the 26 branches of the Ontario Division of the Canadian Cancer Society to raise a total of $500,000.

This year the Ontario Division is seeking to raise an additional $200,000 which it will contribute to the Ontario Cancer Treatment and Research Foundation.

While somewhat divergent in their specific objectives and methods, all have a common purpose. Thus, they share similar rank in seeking our generous and sympathetic assistance.

Note to Editors

WE have noted with understandable pride and gratification the many kind tributes from readers of *Hydro News*. Many of these expressions have come from members of the Fourth Estate.

In making sincere acknowledgment of this heartening recognition, we wish to take the opportunity of answering newspaper friends, who have sought permission to reprint articles and obtain photographs featured in this magazine.

As we have pointed out, from time to time, editors of daily and weekly newspapers and other publications are at liberty to make use of such material, while photographs or stereos will be forwarded on request. The courtesy of a credit line is, of course, appreciated. It is always a privilege and a pleasure to co-operate.

AN UNUSUAL impression of a 100,000-KVA auto transformer at the A. W. Manby Transformer Station by Hydro Photographer Bob Armstrong.



STOCKPILING CONVERTIBLE meters. Frank McCaughey, stockkeeper, places meters on storage shelves where they await their turn for changeover.

METER MATTERS

Hydro changeover techniques expected to effect saving of some $3,500,000

AN important and integral part of Hydro's vast frequency standardization program is being carried out quietly and efficiently at the A. W. Manby Transformer Station and Service Centre.

This phase of the work—meter conversion—is expected to effect an estimated $3,500,000 saving in the big standardization job now well underway in the Southern Ontario System.

Little is known by the average consumer about this interesting, dollar-saving operation, but it is nevertheless of real significance to the Hydro family of 183 municipal and 225 rural systems in the area being cut over to 60 cycles.

Inventiveness and ingenuity of the Commission's meter engineers and technicians have resulted in methods being devised to facilitate the changing over of some 550,000 of the approximately 800,000 meters of all types in standardization areas. This is an increase of almost 50 percent over the original estimate of 400,000 meters that would be convertible. But, still more significant, is the fact that the conversion of single-phase meters can now be completed at about half the cost of the original estimate.

Kit Conversion Method

Typical savings being affected for urban and rural systems are reflected in the figures now available for districts that have been completely switched over to 60 cycles.

For example, 10,837 meters were handled by Ontario Hydro's meter department for Scarborough Public Utilities Commission. To have had these meters changed over by the originally proposed "kit conversion" method, would have cost a little over $179,000. However, by applying the procedure initiated by Hydro and, approved by the Federal Government, the cost of the work was less than $138,000. This represents a saving of approximately $41,000 or something like $35,000 saved on materials and $6,000 by converting certain types of meters that had originally been considered too costly to change over.

The Commission's F.S.D. Meter Department started in a small way. In the initial stages it was closely associated with the Research Division laboratories on Strachan Avenue in Toronto. The laboratory staff furnished facilities for experiments and co-operated in the work by giving valuable advice. That is the way in which the first successful changeover techniques were developed.

Today, as a result of this active research, there are some 30 different types of meters which have received approval for conversion.

In operation for slightly more than a year, the Frequency Standardization Division Meter Department is receiving a steady flow of meters from the field, and is now operating so efficiently tha

by
C. G. W. MacIntosh
Hydro News

POWER FACTOR calibration of meters. John Siebien, right, adjusts meter while Stan. Upper, Shop Supervisor, checks on power factor setting.





LAST STAGE of inspection after calibration. Wilbert Barr, Tester, gives meter final check.

the number being changed over is keeping pace with the large number of units arriving.

On the average, a total of some 4,000 single-phase and about 250 polyphase and special meters are being turned out by the department each month. To achieve this, factory methods of mass-producing the changeover were adopted. Assembly line techniques have been used to break down the incoming meters, reassemble them with the changeover parts and then test the work with a mass calibration system.

Directing this big operation is L. Vernon Hunt, Hydro's Frequency Standardization Division Meter Engineer, who is proud of the achievements of his staff. Mr. Hunt revealed that seven out of every ten meters now being received are convertible.

But it is not all straightforward work. The meter changeover technicians must deal with the various manufacturers' products and the different types of units which they have produced over the past 25 years. The approved changeover procedure varies for every make and type, and even the calibration techniques differ. The minimum run through the shop is 100 meters.

Built Testing Equipment

To make possible the mass checking of the effectiveness of the work, the Meter Department made its own testing equipment. This was built for about $25,000 and would have cost approximately $60,000 to purchase.

Meters arriving at the Commission's shop are divided into three categories—those to be changed over; units to be scrapped; and meters for transfer, commonly known as "floaters".

These "floaters" are non-convertible 25-cycle meters, the Government Inspec-

TYPICAL SCENE in the assembly-line meter conversion job. Here meters are taken apart, changed over and re-assembled. Clifford Palmer, Shop Foreman, watches as Bill Mason re-lags meter.



TESTING POLYPHASE demand meters in power meter section. Walter Percival, Supervisor, watches Norman Eckenswieler make test.

★



LIGHT LOAD testing of single phase meters. L. V. Hunt, Hydro's Meter Engineer, discusses test with Technician Bob Humphrey.

tion seals on which are good for some time. They are given a thorough test before being reshipped for use.

The municipalities accepting "floater" meters for this purpose will save at least $2.00 per meter, since the $5.00 cost of converting the new 25-cycle meters will be eliminated, and the overall price of a sealed "floater" meter laid down in any municipality's meter shop, is $3.00. In addition, they will have the advantage of receiving a new 60-cycle meter at time of changeover.

Daily Challenge

"Operation meter conversion" presents a daily challenge to all those engaged in this important work. New techniques are being discovered constantly by the 26 highly-skilled repairmen and technicians involved. So significant is the research that it is not unreasonable to expect that long before the big frequency standardization job has been completed in the Southern Ontario System, approved methods will be found to change over many more types of meters once classed as non-convertible.

Thus, in an important way, the persistent efforts of Hydro meter technicians are helping effect substantial savings in carrying out the frequency standardization program.



LAST STEP before converted meters are ready for release to the field. John Nickafor, left, is conducting an inspection test for the Canadian Government's Trade and Commerce Department while Edward Tovell, another inspector, puts wax seals on meters which have passed the test.

In Full Operation

Eighth And Final Unit Placed In Service At Hydro's Mammoth Des Joachims Project

"DES JOACHIMS is in full operation!"

That announcement, a few weeks ago, marked a significant milestone in the annals of Canadian hydro-electric power development.

It meant that Hydro's second largest power plant — located on the Ottawa River some 38 miles upstream from Pembroke — had taken its place among the foremost generating stations on this continent.

Behind that announcement lay a story of years of careful planning and dramatic changes in this picturesque section of Ontario.

"Dah Swisha's" building, for instance, created a new lake, 57 miles long and nearly two miles wide at some points. This lake, which serves as a headpond for the development, has been named Holden Lake as a tribute to Hydro's Assistant General Manager — Engineering — Dr. Otto Holden.

A new lake is an important contribution to the economy of tourist-conscious Ontario; it is not unreasonable to hazard the guess that Holden Lake will soon become a popular haunt for vacationists!

Its proximity to national avenues of transportation undoubtedly enhances its possibilities. Running parallel to the lake are the transcontinental line of the Canadian Pacific Railway and Ontario's Highway No. 17. Both carry hundreds of tourists every year. Incidentally, in creating this large headpond, Hydro found it necessary to divert and rebuild 23 miles of the railway line and 12 miles of Highway 17 on a higher level.

by
Shaun B. McQuillan
Hydro News

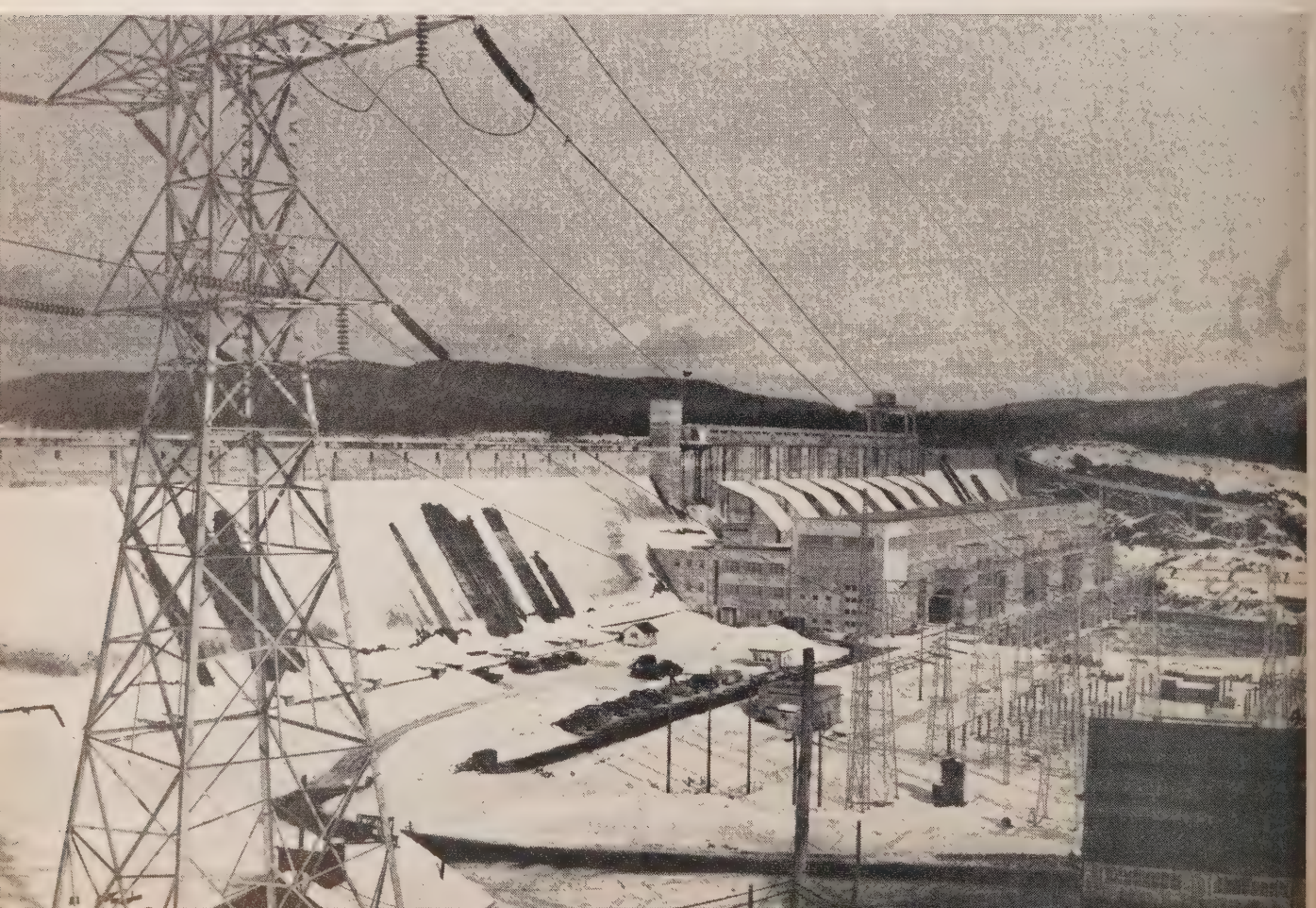
Popular with Tourists

Proof of this area's tourist popularity is the fact that Des Joachims itself was a point of interest for thousands of visitors during the past four summers.

Today, this sprawling yet perfectly-integrated development is virtually complete. It has returned to the comparative peace that reigned before the fall of 1946 when Hydro first began work at this site.

The whine of huge, diesel trucks is heard no more. Silenced, too, is the stacatto chatter of pneumatic drills. Most of the 2,500 men who worked on con-

DES JOACHIMS' eight generators, right, represent the latest in design. Each unit, with a rated capacity of 60,000 kilowatts, requires a flow of 5,000 cfs. for maximum production. Overall view of the new generating station, below, shows the main dam, powerhouse and switching area.









ABOVE—In a setting of spruce and pine, Des Joachims colony is situated on a hill which overlooks the main dam and powerhouse. Colony is a well-planned housing development consisting of one and two-storey dwellings, with a school and recreation hall. Deep River, nearest shopping centre, is 13 miles away.

LEFT—Jack Phillips, Second Operator, relaxes at home with his wife, Pauline, and children, Sandra, 9; Peter, 7; and Kathy, 2, during an off-duty period. Jack was a member of the operating staff at High Falls and also Barrett Chute, before moving to Des Joachims.

BELOW—Pausing in their pursuit of the three "R's", Teacher Beatrice Amell and her 24 Grade One pupils at Des Joachims Public School smilingly posed for this photo. Consisting of three permanent rooms and three temporary ones, the school teaches pupils in Grades One to Eight. Several new Canadians attend.





SINCE IT went into full operation on February 22 this year Des Joachims has established a fine performance record. First Operator Joe Cox and Second Operator Bob Lovering, on duty in the modern control room, step up output of plant as the day's second peak load period approaches.

struction have moved on to other jobs. Only a few remain to carry out the "mopping-up" operations.

Some did not live to see it reach completion. During February this year, the Commission lost the valued services of Angus Richardson, who, as Project Manager, had guided Des Joachims' construction from its early stages. Particularly poignant was the fact that Mr. Richardson's last illness prevented him from being present when the eighth and final unit was placed in service. He passed away on February 23, one day after his "baby" attained its majority, leaving a gap in Hydro's ranks that will be difficult to fill.

Indelible Imprint

But these men have left an indelible imprint. Two great dams straddle the Ottawa at Des Joachims today. A steady hum emanates from the massive powerhouse nestling at the base of the 2,400-foot main dam.

That humming sound is from Des Joachims' eight 45,000-kilowatt generators producing power for the people of Ontario — power that glows alike in toasters and great electric furnaces.

The eighth generator was placed in service February 22 — just eight months after the first two began feeding 60-cycle power into the Southern Ontario System and only four years after camp construction was first undertaken.

Record Production

Since the final unit went into operation, the plant has been establishing enviable production records.

For example, on February 27 its peak output reached 373,000 kilowatts (500,000 hp), 15,000 kilowatts (20,000 hp) over its rated capacity. This production figure was more than equal to the combined 1950 average peak loads of Hamilton, London, Windsor, Brantford, Peterborough, Kingston, Galt, Guelph and St. Catharines.

On March 7 the station also established a maximum daily energy production record of 7,107,500 kilowatthours. This was almost equal to the total amount of energy supplied to Toronto Hydro-Electric System on March 29.

Transmitted at 230,000 volts to the A. W. Manby and E. V. Buchanan Transformer Stations, the power is stepped down at these points for distribution throughout the system. Des Joachims power will be made more directly available to the Georgian Bay Division in

(Continued on page 23)



FIRST OPERATOR Hugh Innes, left, at the controls when Des Joachims' eighth and final unit was brought into service. Watching, left to right, are Plant Superintendent Gordon Faris; E. T. Ireson, Generation Engineer and William Hogg, Senior Resident Engineer at Des Joachims during construction.

STORY OF STANDARDS

Hydro Committee Making Rapid Progress In Unification And Cataloguing Of All Store Items

STANDARDIZE all material, equipment and supplies stored and purchased by the Commission!

This, in effect, was the subject of a directive issued by Hydro's General Manager and Chief Engineer, Richard L. Hearn, in May 1950.

The directive also appointed a Standards Committee who were charged with the responsibility of organizing this new program. The committee, as originally constituted, comprised the following members: R. B. Young, Assistant Director of Research, Chairman; F. H. Chandler, Station Engineer, J. E. Sproule, Power Line Engineer, Electrical Engineering Department; M. G. Fiegehen, Supply Control Officer, W. C. Cunningham, Assistant Purchasing Agent, Supply Division; C. B. Sharpe, Assistant Director, Operations Division; A. L. Ross, Assistant Director, Frequency Standardization Division; W. E. Taylor, Assistant Electrical Engineer, Generation Department. Wm. Dowds, Research Division, was subsequently appointed as Secretary and has now been replaced by C. C. Boyle of Stores Control.

Since this committee was first established much has been accomplished in this move toward standardization which is designed to bring countless benefits to many departments throughout the Commission.

To attain the objective, outlined in the directive, the committee was faced with the following tasks:

1. Sub-division of materials into classifications for the purpose of cataloguing and records;
2. Agreement upon, and use of, a standard terminology in the description of all materials;
3. Establishment of adequate specifications;
4. Minimizing the number of different items, purchased and used by eliminating superfluous types and sizes;
5. Co-ordination of decisions with the results of standardization achieved by nationally-recognized societies.

To this end, the main committee appointed sixteen materials committees who, composed of representatives from departments concerned, have been studying and making recommendations on individual groups of items in specific fields.

The materials committees have also appointed sub-committees to aid them in their investigations.

Eliminating unsuitable and obsolete items of equipment or materials, the various committees then select the best item for each job. This, in turn, reduces the variety of articles required by the Commission for the operation and maintenance of existing properties, as well as those required for the design and construction of new facilities.

In proceeding with this standardization project, all committees have regular meetings to study the individual items listed in their particular category.

Once agreement has been reached on a standard item, or items, the committees obtain signatures from the 'user' departments concerned and forward their recommendations to the Standards Committee.

Authority is then issued to the Cata-

by
Ian L. Thomson
Hydro News



HYDRO'S STANDARDS COMMITTEE. Left to right—W. E. Taylor; R. N. Kirby; J. R. Findlater; W. Dowds; J. E. Sproule; C. C. Boyle; R. B. Young; F. H. Chandler; C. B. Sharpe; M. G. Fiegehen and W. C. Cunningham. Responsible for the overall policy of the Stores Standardization program, the committee holds regular meetings to discuss and approve recommendations which are submitted by the sixteen materials committees.



NO. 1 MATERIALS COMMITTEE. Left to right—K. R. Knights, Generation Department; G. Wesa, Operations Division; C. C. Boyle, Supply Control Department; J. H. Waghorne, Research Division; R. C. Wylie, Communications Section; L. A. Learoyd, Purchasing Department; A. M. Cutt, Power Line Section; Inset—H. P. Cadario, Electrical Engineering Department, Chairman. Committee deals with wire cables, connectors and terminals.

logue Section for inclusion in Hydro's Standards Catalogue.

A recent meeting of No. 1 Materials Committee, a group empowered to select standard types of wire cables, connectors and terminals for control, communication and power, demonstrated the part each committee plays in the overall program.

Out of a total of 41 items listed under aluminum wires and cables for power line and transmission construction, the committee retained only sixteen as standard items. Fifteen were discontinued, while three were delegated for maintenance purposes only. The remaining items were left for further study.

Selection of these items was facilitated by a standardization information sheet which had been circulated previously among all users of these articles throughout the Commission.

In addition to their regular meetings, the various committees and sub-committees also interchange representatives where questions arise regarding certain materials which are related technically to those of another committee.

Although all the committees are continually forwarding recommendations covering specifications, nomenclature, deletion and insertion of numerous items, their activities do not hold up orders for any type of supply.

Suggest Substitutes

If a requisition calls for a non-standard item the request is filled. However, copies of the order are forwarded to the appropriate committee which investigates the necessity for using such an item. The item may then be catalogued as standard, or a suggestion may be made for use of a substitute already catalogued.

In spite of the continued reduction of items it is difficult, nevertheless, to arrive at figures representing the saving due to the work of the vast standardization program.

Though somewhat different in extent of operation, it may, however, be interesting to note that while Ontario Hydro has approximately 1,000 listed items in the wire and cable section, the Detroit Edison Co. in the United States, after over 25 years of standardization work, has 541 items in this category to cover all their requirements.

While this project will, by necessity, be operated on a long-term basis, continued investigations by all the committees are constantly bringing to light new methods and solutions.

On a broader basis, this program will also help serve the public interest. With the Standards Committee having an important voice in national standardization work, there will undoubtedly be many changes initiated by manufacturers to comply with the required standards of Hydro and other organizations. Thus company standardization will ultimately benefit the general public by greater uniformity in the manufacture of electrical equipment and accessories.

The Standards Committee, in organizing this project, also recognized that too rigid a program might ultimately deter manufacturers from designing new equipment. To overcome this, the Committee has a certain flexibility in its machinery which allows for continued progress in the experimental field.

These steps, in line with many other recommendations submitted to, and proposed by, the Standards Committee, will help to forge another link in this important dual-purpose program; a program which, through complete uniformity, is designed to bring benefits to all power consumers as well as those concerned with the purchase, supply and use of Hydro equipment, materials and supplies.

Building Boom in Tillsonburg

TILLSONBURG experienced one of its greatest building booms during 1950 which marked the completion of a huge Ontario Hydro substation; two new schools and a church. Nearing completion is the new Tillsonburg Soldiers' Memorial Hospital wing; an addition to the Borden plant and the North Broadway sewer project.

The new substation on Tillson Avenue was completed early last spring at a cost of $340,000, and a start was made on the Tillsonburg Public Utilities' Bloomer Street Substation which, it is estimated, will cost $125,000.





"Kam" Plant

Pioneer Generating Station At Kakabeka Falls Acquired by Hydro—Bears Favorable Comparison With Any Plant Of Same Size In The Province

by

Harry M. Blake
Hydro News

BACK in 1896, a year before Queen Victoria celebrated her Diamond Jubilee as a reigning monarch, and ten years before the creation of Hydro, a citizen of Northern Ontario, E. S. Jenison, approached the provincial government for approval of a project to develop waterpower in the Kaministiquia River near Kakabeka Falls. His objective was to serve customers in the growing Lakehead communities of Fort William and Port Arthur with electricity.

At the time of the Jenison petition such an undertaking as he contemplated was still regarded as quite a venture. Hydro-electric development in Canada was in its infancy. Apart from direct current pumps which supplied the town of Niagara Falls with water, there was only one electric power installation on the Ontario side of the Niagara River. This was a comparatively small generating station built by the International Railway Company to supply power for the operation of its electric railway between Chippawa and Queenston. And not only was the proposed Jenison enterprise to be regarded as almost a pioneer undertaking from the point of view of hydraulic construction, but the power he developed would have to be transmitted a distance of approximately 20 miles — no mean feat in the days when alternating current was just passing out of the experimental stage. Jenison, however, appears to have been a man, who, like Sir Adam Beck, inspired confidence, and it is a pity that his antecedents and subsequent career are veiled in comparative obscurity. His request was granted and the development appears to have been carried out successfully.

The Jenison agreement, it is interesting to note, was embodied in an enactment of the Legislature, and among waterpower development enterprises in this province, shares only with The Hydro-Electric Power Commission of Ontario this signal distinction.

The act, in part, set forth that the petitioner "within three years after the date of the agreement will construct works sufficient to produce 5,000 horse power and will install and maintain electric machinery sufficient to create and distribute at least 1,000 horsepower of energy to supply the customers, and as much more machinery as will create and supply 25 percent more electric power than there may be demand for at all times thereafter, and that he will furnish this power to the consumers *at such rates as the Lieutenant-Governor in Council may approve,* and that he will make provision to pass over Kakabeka Falls at least 4,000 cubic feet of water per minute at all times." The penalty for non-fulfillment of these terms was the forfeiture to the Crown of all lands and rights granted for the carrying out of the project.

This agreement clearly shows that the new waterpower development was to be regarded in many respects as a public service enterprise. It suggests, of course, that even at this early date there was a growing public sentiment in favor of the development of the waterpower resources of the province in the general interest. As this sentiment crystallized, it was to find a powerful advocate in the late Sir Adam Beck and to lead to the creation of Hydro.

As we review this early waterpower legislation from our present advantageous position in time, there will be some of us, no doubt, who will be prone to believe that the fates were decreeing an ultimate merger of this northern development with what was to be the steadily-expanding Hydro system. Be this as it may, it is no longer news that the Commission in 1949 purchased the properties of the Kaministiquia Power Company — the heirs of the Jenison agreement, who, in a commendable public spirit and with conspicuous engineering ability, enlarged the scope of the original enterprise and constructed a power deve

LOOKING DOWNSTREAM from Hydro's recently acquired generating station on the Kaministiquia River below Kakabeka Falls. Power from its historic and picturesque plant is being supplied to the Fort William Hydro-Electric Commission for distribution to its local customers.



KAKABEKA FALLS is the "little Niagara" of the North. It is a thrilling spectacle, especially in summer, when there is considerably less diversion of water for power generation purposes.

lopment that has stood the test of forty-four years of service and will bear favorable comparison with any of its size in the province today.

General Plan Like Queenston

During a tour of Northwestern Ontario *Hydro News* visited this recently acquired power development at Kakabeka Falls and discovered that, apart from historical interest, it embodies many unusual features.

This solid, old-time project is now part and parcel of Hydro's Thunder Bay System and adds a reliable resource of approximately 34,000 horsepower to the power pool established there. In its general aspect, it resembles Hydro's Sir Adam Beck Plant No. 1 at Queenston. Just as this station makes use of the descent of the Niagara River above and below Niagara Falls, so the Kakabeka Generating Station utilizes the fall in the Kaministiquia River both above and below the Kakabeka Falls. Conduits corresponding to the canal which serves the Beck plant carry the water from the intake in the river above the falls to a surge chamber which functions similarly to the forebay at Queenston. From the surge chamber, as from the Beck forebay, penstocks convey the water down to the powerhouse — in the case of Kakabeka providing a head of 187.5 feet.

Kakabeka is, of course, only a miniature of Hydro's premier development at Niagara and, naturally, there are a good many differences in construction detail. At Kakabeka there are four concrete dams at the head of the long stretch of rapids above the precipitous waterfall. Two of them provide flood discharge sluiceways. The third constitutes the intake for the water utilized for power. The fourth is a sluiceway which has been filled to form a bulkhead dam.



MODERN STOCK-FARMS feature rural activities at Lakehead. Hydro power is a vital factor in the progress of an industry once regarded as restricted to Southern Ontario.



KAKABEKA GENERATING STATION embodies many unique features. One of them is the surge-chamber from which the penstocks descend. This structure corresponds to the forebay at the Sir Adam Beck Plant and is equipped with devices to control the flow of water to the turbines.

Water for power purposes is admitted past a gatehouse to a short canal leading to the screenhouse. Three reinforced concrete conduits, each ten feet in diameter, emerge to conduct the water to the surge chamber something more than a mile distant.

Surge Chamber

This surge chamber, which is a distinctive feature of the Kakabeka development, is located at the top of the escarpment overlooking the powerhouse. It consists of a rectangular reservoir 70 feet long and 63 feet 6 inches wide. It would be something like the swimming tank at Sunnyside, Toronto, if the latter were deepened to a uniform 28 feet, walled-in and covered with a roof. Instead of ladders, diving towers and natatorial equipment, the surge tank is, of course, furnished with hydraulic devices. The upstream bulkhead contains three circular transitions from the conduits, discharging into rectangular passages 15 feet wide, separated by concrete piers 4 feet thick, which provide stop-log checks, enabling an individual conduit to be isolated from the surge chamber for inspection or maintenance purposes. The downstream comprises five rectangular water passages, 12 feet wide, separated by 24-inch piers provided with checks for stop logs. Five butterfly valves are located on the bulkhead face at the back of these passages to control the flow to the individual penstocks. Each passage terminates in a circular transition leading to the steel thimbles to which the penstocks are attached.

The surge chamber is provided with an elaborate syphon spillway capable of discharging the inflow in the event of sudden load loss and conveying it through a 10-foot diameter concrete pipe to a concrete flume leading to the river. The entire structure is floored with lumber on steel beams and housed in a frame building.

Four curving steel penstocks convey the water from the surge chamber down the escarpment to the powerhouse. Three of these pipes are 7 feet 6 inches in

(Continued on page 21)



THE "SUNSHINE BOWL" at Kakabeka is protected from cold Boreal blasts. In the gardens behind the powerhouse apples are grown and in summer there is a riot of flowers.



NEW HOME of C.S.A. Approvals Division houses testing equipment for electrical appliances and equipment formerly at Strachan Avenue lab.

Home, Sweet Home

Approvals Laboratories of Canadian Standards Association Moves From Hydro Laboratory to New Headquarters

A THREE-storey, brick and concrete building at 77 Florence Street in Toronto is the new "Home, Sweet Home" of the Approvals Laboratories of the Canadian Standards Association—the first home of its own the Laboratories has had since the inception of this branch of the CSA 10 years ago.

And with the recent move, some 100 men and women, formerly employed by Hydro, were transferred to the staff of the CSA. At the same time, a large amount of testing equipment was moved from Hydro's laboratory at Strachan Avenue to the Florence Street building.

The transfer of staff and equipment marks the culmination of many years' close association between the CSA and Hydro. Back of that association is an interesting history.

It dates back to 1919, when the H.E.P.C., which had formed its own inspection department under the Power Commission Act of 1915, undertook the testing of all wiring and electrical equipment offered for sale in Ontario. Purpose of the tests, the first of their kind in Canada, was to protect the users of such electrical equipment against hazards of fire and shock.

As time went on, Hydro's standards of safety became more and more widely-accepted, and by 1940 its stamp of "Approval" was recognized by the governments of five Canadian provinces, and by many large municipalities in the other provinces.

Realizing the growing national status of its testing activities, Hydro in 1940 made arrangements with the Canadian Standards Association to assume all responsibility for the testing of electrical appliances, materials and equipment, on which it would place its own labels or markings instead of the previously-used Hydro labels or markings.

Hydro, however, agreed to act as agent for the CSA in carrying out the actual tests, etc.—this to be on a temporary basis until the Association would be able to take over the testing activities as well.

With the acquisition of its new quarters, the CSA has terminated this temporary arrangement, and henceforth its Approvals Laboratories will act as a self-contained, national unit, serving electrical manufacturers and the general public all across Canada.

by
Edith B. Toland
Hydro News

Oil Burner Section

A story somewhat similar to that of the appliance-testing section may be told of the oil-burner-testing section. Prior to the move to Florence Street, all testing of oil burners for "Fire Hazard" was carried on in the laboratories of the National Research Council in Ottawa, with the responsibility on the shoulders of the CSA.

All equipment for testing the burners has now been installed at Florence Street, and the testing staff transferred from Ottawa to Toronto.

More than 20,000 square feet of floor space is available in the new building.



DIVISION'S DIRECTOR, Gerry Moes, has a wide variety of experience in commercial testing, inspection and electrical manufacturing.



MAIN CONTROL panel is scanned by John Harris, Electrical Engineer; David Woolley, Stationary Eng. and Jim Hendry, Elect. Maintenance.

However, the CSA plans to erect additions to the building in the foreseeable future, as plenty of room is available on the property to provide for expansion.

The move to the new quarters was the final step in discussions which have been spread over the past two years. These discussions involved problems of personnel, including the setting up of a new pension plan, and the sale and loan of various pieces of equipment. In addition, a new accounting system had to be organized, separating the items formerly handled by six different departments in the Commission.

And so a highly efficient system of testing, inaugurated by Hydro for the protection of the people of Ontario, is now being operated under national aegis for the protection of all users of electrical equipment in Canada.

Two members of the Commission's staff may be singled out particularly in the long history of Approvals testing — W. P. Dobson, the present Director of Research, and the late W. C. Cale.

In 1919, Mr. Dobson was Laboratory Engineer, and he was instructed by F. A. Gaby to organize a department for testing work. Mr. Cale was appointed Approvals Engineer. These two men were associated with Approvals testing for over 30 years. Mr. Cale died in July, 1950, just a few weeks before the official change took place. He was to have joined CSA with the rest of the staff and his death was a real loss to the Approvals Laboratories, because of his long experience and background in this work.

Mr. Dobson remains with the Commission as Director of Research. He has resigned from the CSA Executive Committee, from the chairmanship of the Approvals Council and from the chairmanship of the Part I, Canadian Electrical Code Committee.

The Approvals Laboratories at Florence Street is now organized in three Sections.

F. R. Whatmough, formerly senior engineer for Mr. Cale, has been appointed Chief Engineer and is in charge of all engineering and laboratory testing. A graduate of the University of Toronto, he joined the Hydro "Lab" staff in 1928 after being associated with the Canadian General Electric Company

(Continued on page 21)

TESTING OIL burners for fire hazard is an important part of the work done at Florence Street. This section was formerly located at National Research Council H.Q. in Ottawa.

★

KEN WESLEY, technician at CSA, adjusts an oxygen bomb which is used for accelerating aging of wire and cable rubber insulation.







Honor Engineers

Life Memberships In A.M.E.U. Presented To E. V. Buchanan, London, O. H. Scott, Belleville, M. J. McHenry, Ontario Hydro

IN recognition of their outstanding work in the interests of Hydro, three well-known Ontario engineers were presented with life memberships in the Association of Municipal Electrical Utilities at a recent ceremony in Toronto.

Those honored were: Edward V. Buchanan, A.R.T.C., P.Eng., General Manager, London Public Utilities Commission; Oswald H. Scott, B.Sc., P.Eng., General Manager, Belleville Utilities Commission, and Morris J. McHenry, B.Sc., P.Eng., Director, Consumer Service Division, Ontario Hydro.

Presentation of the life membership scrolls was made during a gathering of engineers and O.M.E.A. members by Robert Butter, Owen Sound, and J. Clark Keith and J. E. Teckoe, Jr., both of Windsor.

E. V. Buchanan

During his reply to the honor conferred on him, Mr. Buchanan announced his intention of retiring from the position of General Manager of London's P.U.C. before the end of the year. It was a double honor, he said, to be a recipient of a life membership in the A.M.E.U. and to speak to his friends and colleagues in the engineering profession, possibly for the last time in his present capacity. He also recalled his association with the late Sir Adam Beck during the early days of Hydro.

"The strength of character symbolized by the 'Father of Hydro' is reflected in the Commission's outstanding success," he said.

Mr. Buchanan came to Canada in 1910 following graduation from the Royal Technical College of Scotland. He later joined the London Commission and was

(Continued on page 23)

UPPER PHOTO—J. Clark Keith, Windsor, left, presents life membership to Mr Scott. In the centre photo, M. J. McHenry, left, receives his parchment from Robert Butter, Owen Sound, Immediate Past Pres., A.M.E.U. Lower photo —J. E. Teckoe, Jr., Windsor, right, makes life membership presentation to Mr. Buchanan.

KAM PLANT

(Continued from page 17)

diameter and the other 11 feet. All are carried on concrete cradles and anchor blocks and protected by housings. The powerhouse, erected on the shoreline of the Kaministiquia River, is built of concrete, with structural steel roof trusses and a slab roof with a composition waterproof membrane.

Circuits To Fort William

Four 22,000-volt circuits supported by wooden pole structures, transmit the power produced by the four generating units to the Mary Street Transformer Station in Fort William. At this point the power is passed over to the Fort William Hydro-Electric Commission which looks after the requirements of local customers.

Total water storage behind four dams far upstream from Kakabeka is in excess of 900,000 acre feet. Discharge records show that a regulated flow for power purposes of 1,435 cubic feet per second may be expected at all times.

It's Hot In The Bowl!

The Kakabeka powerhouse is uniquely located at the base of a bowl-shaped cleavage in the escarpment. It is almost completely protected from prevailing winds, and in July and August, with the sun beating down on the bowl and the heat concentrated by its banks, local temperatures are said frequently to far exceed those recorded at any other spot in Northern Ontario north of Lake Superior.

In mid-summer it was at first found next to impossible to keep the interior of the generating station cool in spite of a ventilating structure erected on the roof. On a hot day the attendants sought relief by coming at frequent intervals to the doorways, wiping the perspiration from their faces as stokers do when they emerge from the boiler rooms of freighters sweltering in tropical seas. At long last the problem was solved. A sloping roof was built out from the powerhouse just above the generating room and a curtain of cooling water provided from overlaid piping. The water, after performing its chore, drains off the roof into the tail-race.

A Picturesque Spot

As *Hydro News* saw it, the Kakabeka powerhouse, with its glistening concrete walls and colored awnings at nearly every window, should be justly considered as one of the most picturesque of Hydro generating stations. Behind the power house an attractively-landscaped garden has been laid out. This garden, abloom with Iceland poppies and roses at the time of our visit, is carefully tended by W. W. Currie, Plant Superintendent, and his assistants, L. S. Cunningham and J. D. Bruce. The latter, who rather quaintly described himself as "wheelman," in accordance with a now outmoded hydraulic terminology, showed us some apple trees. They were the first which we had seen growing beyond the northern borders of the Great Lakes, and they were laden with maturing fruit. We were told that the apples, while of a smaller variety than those grown farther to the south, were of a fine flavor and could be relished in the raw as well as in pies and conserves.

There are two superb views from the vicinity of the powerhouse. One is the outlook over the tail-race and up the river to the white-crested torrent of Kakabeka Falls. The other prospect is from the rim of the bowl near the surge chamber. From this point of vantage one takes in the downstream sweep of the river until its course is lost amid the blue mists that gather around the towering hills and headlands of Thunder Bay.

POWER USE UP AT COLDWATER

DOMESTIC consumption in Coldwater jumped from 387,195 kilowatthours in 1949 to 421,265 in 1950, and commercial consumption went up from 178,577 kilowatthours to 191,330 in the same period.

New installations of heavy equipment, electric stoves and other electrical appliances are reported to have been responsible for the increased consumption.

A further improvement in the street lighting system was made on South Main Street, by the erection of eight modern luminaires using 300-watt lamps, in place of six old-style fixtures using 100-watt lamps.

HOME SWEET HOME

(Continued from page 19)

and with the University of Toronto as a laboratory lecturer.

J. D. Barnes, Secretary-Treasurer of the Approvals Laboratories, is also a graduate of Toronto University. He served for several years with the R.C.A.F. as a Signals Officer, joining the H.E.P.C. staff at Strachan Avenue in 1946. He was later associated with the CSA Headquarters staff in Ottawa.

N. A. Cockburn heads the Inspection Department as Chief Inspector. He joined Hydro in 1929. He is a registered Professional Engineer in the Province of Ontario and at the time of writing is on a factory inspection trip in the United Kingdom and Western Europe.

Gerry Moes, Director of the Approvals Laboratories, joined the Canadian Standards Association early in 1950. Born near Amsterdam in Holland, he is a graduate of the University of Liverpool (England) and brings with him a variety of experience in commercial testing, inspection and electrical manufacturing, most of it in Canada in the last 25 years.

J. J. Donnelly, active since 1930 in a multitude of Hydro staff activities, has been placed in charge of the Department of Personnel. This, in addition to his duties as Purchasing Agent and head of Stores, constitutes a very responsible post.

Holding other key positions are several employees who have had over 20 years' service with the Commission. They are: H. G. Hawley, H. L. Freeman, W. Jacques, W. J. Evans, C.. Lowman, J. Clarke, W. R. Lusher.

With a fine staff, a good building, excellent equipment and able leadership, the Approvals Laboratories staff believe they are entering a new era of achievement in the interest of national public safety.

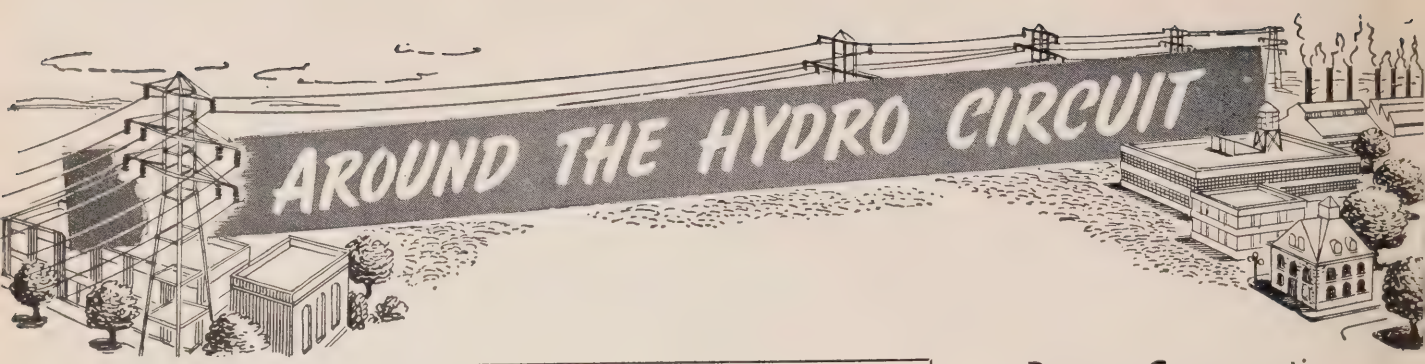
Former Walkerville Superintendent Dies

WILLIAM HENRY LOWRY, aged 77, first Superintendent of Walkerville Hydro Commission, died in Windsor recently after a short illness. He served in this capacity from 1914 until his retirement in 1936.

Born in St. Clair County, Michigan, Mr. Lowry had lived in the Windsor area for 50 years. He resided at Leamington before moving to Windsor.

A member of the Leamington Lodge No. 290, A.F. and A.M., he was presented with the 50-year Masonic jewel in 1949. He was also a member of King Cyprus Chapter, Royal Arch Masons No. 119, G.R.C., and was a 32nd Degree Mason. At the same time, he was actively identified with the Moramos Shrine Club.

Mr. Lowry is survived by his widow, Ella Brush Lowry; one daughter, two brothers, and two sisters.



McGregor Heads Electric Club



J. S. McGREGOR

J. S. McGREGOR, Treasurer, Toronto Hydro-Electric System, was elected President at the 35th annual meeting of the Electric Club of Toronto. The club has over 750 members representing various electrical organizations in the Toronto district. Other officers elected were: Past president, L. E. James; First Vice-President, J. G. Inglis; other Vice-Presidents, M. B. Hastings, G. T. Dale, E. W. McLeod; I. M. MacLean, H. M. Morris; Treasurer, W. E. Pointon; Secretary, I. D. A. Cook; Auditors, W. D. Brown and W. McNeill. Executive committee: J. A. Clish, H. R. Fardoe, G. A. Brace, C. D. McCaig, T. A. Lindsay, H. H. Gardner, J. H. Smith, W. N. Herod, H. E. C. Smith, J. R. Montague, G. W. Lawrence, C. Ogilvie, W. J. Wylie, W. G. Pengelley, G. Appleton, W. H. Paterson, R. L. Mooney.

DEMAND RISING STEADILY

Primary power demands are increasing steadily, Galt Public Utilities Commission reported recently.

The high mark for February was 13,900 kilowatts. Ordinarily there is a seasonal decline in power demands in the early months of the year. This year, however, there has been no falling off in these demands.

PRESTON COMMISSION PLANS NEW STATIONS

Preston Public Utility Commission has launched a program which provides for the construction of three new substations. One of the substations will include a meter room, stores room and garage.

The present rebuilding program is being carried out to coincide with the frequency standardization schedule.

NEW LIGHTS AT COBOURG

Cobourg's business section will have new street lights installed this spring, according to a recent announcement by the local utilities commission.

Estimated to cost $17,000, the lights will be the overhanging type with wires placed underground. It is planned to remove all hydro poles from the main street and place them behind stores.

RESERVOIR IS NAMED AFTER J. A. BOWMAN

Ingersoll's new reservoir, west of town on the Hamilton Road, is to be known as the John A. Bowman Reservoir.

This was recently decided by the local public utilities commission as a tribute to Mr. Bowman, who has served on the Commission since 1933, which is a local record so far as is known.

Power Consumption Increased In Windsor

WINDSOR power consumption in 1950 totalled 251,000,358 kilowatthours, compared with 217,710,686 in 1949 — an increase of 33,289,672 kilowatthours or 15 percent. These figures were released recently by the Windsor Utilities Commission. Average monthly consumption in kilowatthours per consumer for the three classes of customers was as follows: residential, 276; commercial, 27, and power, 17,639.

Revenue was derived in the following percentages: domestic, 38.1; commercial, 22.4, and power, 39.5.

The records also showed that domestic consumption jumped 17.8 percent; commercial, 15.5, and power 13 percent.

The average number of customers per month in 1950 was: residential, 29,565; commercial, 31,915, and power, 621.

TANKS, HEATERS BECOME PROPERTY OF HOME OWNERS

Commission-owned hot water heaters and equipment, at present installed in Napanee homes, under the policy made effective in 1933, are to become the property of the users.

Napanee Public Utilities Commission recently decided that this equipment would be turned over to the owners of the property in which they are located and the maintenance of same will, in future, be the responsibility of the customer.

SPEED RECONSTRUCTION PRESTON PUC BUILDING

Preston Public Utilities Commission will speed the reconstruction of the transformer station which was badly damaged in an explosion and fire last November, according to a recent announcement by Manager H. B. Mattson.

Reconstruction will include a new roof for the damaged section of the building, window frames, painting and general repairs. Estimated cost will be approximately $7,769.

IN FULL OPERATION

(Continued from page 11)

July through the facilities of the new Essa Transformer Station near Barrie. Burlington Transformer Station will soon facilitate distribution in the Hamilton area.

Converting Power

In addition, 60-cycle power from this large plant is converted to 25 cycles at the Scarborough (near Toronto) and the E. V. Buchanan (near London) Station; for those areas not changed over under Hydro's Frequency Standardization program.

Finishing Touches

Since February this year, when Des Joachims went into full operation, the job of making the interior of the powerhouse "spick and span" has been in full swing. Workmen have been laying red quarry tile over the concrete underflooring; interior walls have been taking shape and acoustic tiling has been placed to absorb generator noise.

Electricians, decorators, plasterers, and mechanical tradesmen have been busily engaged in the task of putting the finishing touches on this large building.

As an added touch, a large mural, depicting the development of the Ottawa River, will be a feature of the powerhouse reception room.

With construction approaching completion, many of the buildings that made up Camp No. 1 on the Ontario side of the Ottawa are being dismantled. First of the four camps to go was McConnell Camp (No. 4) which was taken down last June. Camp No. 3, on the Quebec side, went last fall; No. 2 during the last few months.

Des Joachims Colony

A few buildings of Camp 1 have been retained as accommodation for single members of the operating staff. New homes have been built for married members of the operating staff and their families.

Set against an attractive wooded background, the colony consists of a well-planned housing development of modern one and two-storey permanent dwellings, with a school and community centre nearby. At present 36 of these houses are occupied while 16 single members of the operating staff are living in one of the staff houses which formerly accommodated construction personnel.

In the near future, the camp hospital will be converted into a staff house for single employees.

Landscaping Plan

It is estimated that all powerhouse construction will be completed by July 1.

But, there's another job which will not be completed until this fall. It is the landscaping plan for Des Joachims. One of the objects of the plan is privacy for the colony which will have separate entrance gates, while simplicity will be its keynote.

All denuded construction areas, with the exception of outlying areas scheduled for reforestation are being laid out in groves and lawns to blend the colony with its natural setting.

A large area will provide space for all outside recreational activities while a playground will be established near the colony school.

Colony Population

Present population of Des Joachims' colony is about 160. This figure will be increased when the operating staff reaches its full strength of 50.

The school has more than 130 pupils of whom about 75 are children of Hydro operators. Children from homes outside the colony also attend.

Life at Des Joachims may be quiet. One main street encircles the colony, and traffic — always a hazard for smaller children — is light. The milkman and the baker give regular service to the community and Deep River — the nearest shopping centre — is 13 miles away.

It's only a few minutes' walk for a picnic in the nearby woods, and, although there is no theatre or sports arena, members of the colony find plenty of opportunity for recreation in their community hall.

All in all, the general concensus of opinion seems to be that life at Des Joachims is "pretty good!"

Turning from the social to the financial aspect of Des Joachims, the records show that the estimated cost of the development now stands at $75,775,000. Transmission facilities still to be constructed, to connect with major distribution points, are expected to cost an additional $25,000,000.

BELLEVILLE P.U.C. TO BUILD SUBSTATION

RAPIDLY-INCREASING power requirements in the east end of Belleville have necessitated construction of a new substation at a cost of approximately $70,000.

The new Belleville P.U.C. substation will be located at the northeast corner of Bay Street and Foster Avenue. The $27,000 rebate, recently received from Ontario Hydro, will be used to defray part of the construction cost. Expenditures in connection with the project will not involve an increase in the city's present Hydro rate.

HONOR ENGINEERS

(Continued from page 20)

appointed General Manager in 1914. During his 36 years of continuous service in this post, he has sponsored many improvements and innovations beneficial to Hydro customers throughout Ontario.

In 1917 he was elected President of the A.M.E.U., succeeding P. B. Yates, St. Catharines, as first President.

O. H. Scott

Mr. Scott, who was presented with his life membership scroll by J. Clark Keith, General Manager, Windsor Utilities Commission, stated that his service to the Belleville Commission had given him a great deal of personal pleasure.

He recalled many interesting highlights of his career which had brought him into contact with most of the people present at the dinner.

Mr. Scott was born in Oshawa and graduated from McGill University, Montreal. He served as a utility engineer in the United States before going to Belleville to assume managership of the local Commission in 1913. In 1919 he was elected the third President of the A.M.E.U., succeeding Mr. Buchanan.

M. J. McHenry

During his remarks, Mr. McHenry said that he was overwhelmed by the high honor which had been bestowed upon him. Highlighting some of the outstanding past achievements of Hydro, Mr. McHenry predicted that the present organization of the Commission was such that it will be a major factor in bringing prosperity to the province.

"Hydro was founded on an ideal," the speaker concluded, "and I hope that it will continue to promote that ideal."

Mr. McHenry served as Hydro's Director of Promotion for several years. During the last war, he was Chief Priorities Officer before assuming his present position in 1947. He was the fourth president of the A.M.E.U., (1921 22) at which time he was Manager of the Walkerville Hydro-Electric System. Born in Pennsylvania, he is a graduate of McGill University.

D. P. Cliff, Dundas, President of the Ontario Municipal Electric Association, was in the chair.

Classified Ads

One General Electric Transformer: No 187535; Type H; 25 Cycles; Capacity: 500 KVA. 40 C Rise EN 32310; Volts 26400 13200-2300/4600/8000Y. Outdoor, oilfilled

Apply A. E. Ditchburn, Manager, Public Utilities Commission, Strathroy, Ont.

Loyal and Devoted Service Praised By Vice-Chairman

Hydro Officials And Staff Commended By Hon. George H. Challies During Ontario Legislature Report On Hydro

ONTARIO Hydro's enormous task of making provision for adequate, low-cost electric power for the people and industries of Ontario never ends.

Hon. George H. Challies, M.L.A. (Grenville-Dundas), First Vice-Chairman of the Commission made this observation in presenting a review of Hydro's 1950 operations to the Ontario Legislature recently.

During his report, Mr. Challies paid tribute to the "unflagging zeal" with which Chairman Robert H. Saunders and Second Vice-Chairman W. Ross Strike, K.C., "have pursued the best interests of Hydro and this province."

He also expressed warm praise for Richard L. Hearn, General Manager and Chief Engineer; the Assistant General Managers, Dr. Otto Holden, (Engineering) and A. W. Manby (Administration); E. B. Easson, Secretary; E. H. Banks, Comptroller; F. R. Brebner, Treasurer, and "their very able staffs at Head Office, in the Regional Offices and in the field."

Without their loyal and devoted service, Hydro's achievements "would have been quite impossible," he declared.

Growth In Resources

In referring to these achievements, the First Vice-Chairman traced the growth in the Commission's resources. In 1945, total dependable resources of generated and purchased power, available to Ontario citizens through Hydro, amounted to some 2,600,000 horsepower. By the end of 1950 these resources had increased to about 3,700,000 horsepower.

Plans call for a dependable capacity in generated and purchased power of some 4,700,000 horsepower by the end of 1952, Mr. Challies pointed out.

"This is an 80 percent increase over the 1945 figure or an additional capacity of more than 2,000,000 horsepower," he stated.

Tracing the parallel increase in demands, the speaker said that Hydro customers are using much more power per capita than they were 13 years ago.

For instance, in 1937, a domestic customer's average monthly requirements amounted to 157.5 kilowatthours. In 1949, (the most recent year for which a complete analysis is available) the comparable figure was 262.4 kilowatthours, an increase of more than 66 percent. The average commercial consumer had increased his consumption by nearly 62 percent in the same period.

In dealing with future power developments in Ontario, Mr. Challies referred first to the work under way at the new Sir Adam Beck-Niagara Generating Station No. 2, which would produce about 600,000 additional horsepower.

Turning to the St. Lawrence, he said pressure is being exerted to bring "the long-delayed, often frustrated plans for developing the St. Lawrence power into effect." The only obstacle was the opposition in the United States Senate to the Seaway proposal, either as a joint power and navigation scheme or simply as a power development.

"Whether that obstacle can be overcome or not, common sense and justice alike dictate that Ontario and New York State should no longer be denied access to the power they both need so urgently and which is theirs by right."

Mr. Challies commended the Commission's research activities, declaring that its laboratories "have contributed steadily to the world's knowledge of how best to produce, distribute and use electric power."

He cited the tribute to the skill of Hydro's construction men from a high-ranking U.S. expert. After visiting projects on the Ottawa River recently, this impartial observer had stated that "the perfection of the concrete work, in my judgment, is truly remarkable, not only with respect to the absence of cracks in the concrete of all types, but also the almost perfect alignment maintained in the formwork during construction."



HON. GEORGE H. CHALLIES, M.L.A.

Research Award

Mr. Challies informed the Legislature that two of Ontario Hydro's research engineers, J. R. Leslie and W. J. Cheesman had been granted the Wason Medal for their work in developing the Soniscope which was now being used for testing of cement or concrete.

Referring briefly to the trend toward transmitting power over 380,000 and 500,000-volt lines, he said Commission engineers will be ready to adopt this practice should the need arise for higher transmission voltage in Ontario.

In fact, Hydro was keenly aware of its great responsibility and of the complex problems it faces.

"The citizens of Ontario can be confident that progress will continue unabated and that solutions will be found for our problems," he declared in concluding his address.

New Power Consumption Record In Hamilton

HAMILTON'S power consumption jumped almost 100,000,000 kilowatthours last year, setting a new record, A. W. Bradt, General Manager, Hamilton Hydro-Electric Commission, announced recently.

Approximately 2,000 new services, connected throughout the city during the year, were partially responsible for the increase. The major portion of the increase, however, was due to additional demands from industries, as well as the increased requirements of commercial and domestic customers.

At the end of 1950, the local system had 59,970 individual customers. At the end of the previous year there were 58,337.

In 1912 when Hydro service was inaugurated in Hamilton, the demand was 1,200 kilowatts. Today it is approximately 172,000 kilowatts. This figure represents the maximum 20-minute peak demand during the year.

HYDRO HOME FORUM



by
Edithemma Muir
Home Economist



ANY housewife who hasn't encountered electrical appliance troubles at one time or another can count herself exceedingly lucky!

Many expert "sisters of the skillet" wonder why the electrical equipment in their bright and gleaming homes suddenly develops quirks.

Some are inclined to place all the blame on the appliance itself. They forget that these comparatively delicate mechanisms are frequently exposed to a veritable barrage of dust and other forms of dirt, such as lime, grease, crumbs or heavy oil. Frost is another "bugaboo" of electrical equipment.

In a recent survey of local electrical shops, this column found servicemen almost unanimous in their opinion that impairment of electrical equipment was generally due to one or more of the following factors:

1. Improper methods of operation;
2. Lack of regular cleaning;
3. Use of poor or unsuitable cleaning materials;
4. Failure to read and follow instruction books.

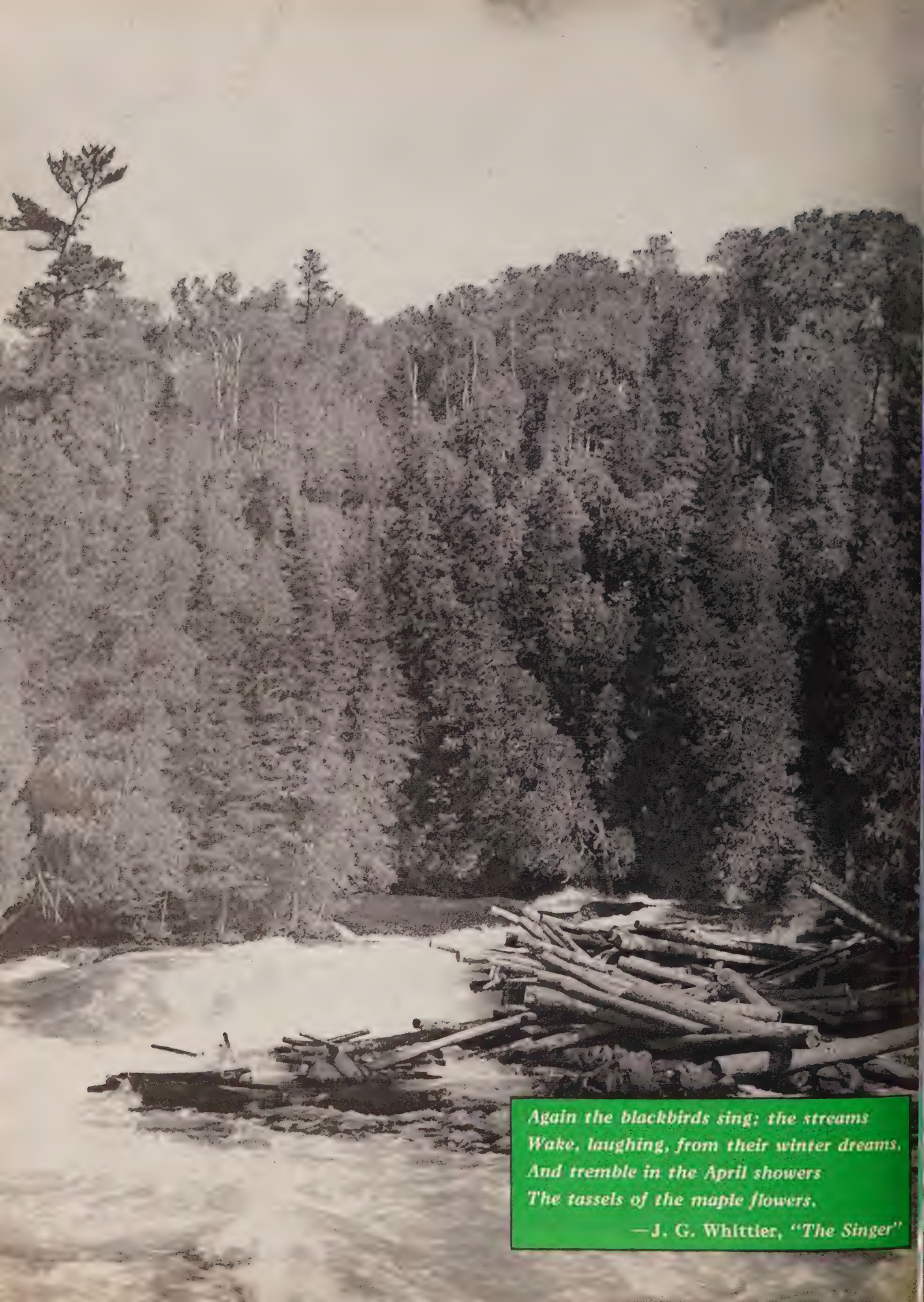
Not only do these factors interfere with the efficient operation of appliances. They also tend to cause deterioration in appearance with a consequent reduction in the "face" or trade-in value of equipment.

If appliances are given regular and proper care, they will respond by giving dependable service. Here are a few practical hints for the housewife in avoiding trouble and accomplishing her daily duties pleasantly and economically:

1. Dust or clean light bulbs and fixtures at frequent intervals;
2. Empty the vacuum cleaner bag regularly and thoroughly;
3. Set definite dates to lubricate your ironer;
4. Remove lint that collects under the gyrator of the washing machine after each washing;
5. Grease in the electric oven attacks the metal and porcelain. You can buy several types of cleaner at the paint or hardware counter;
6. Defrost the unit of the refrigerator every two weeks to avoid unnecessary running of the motor;
7. Crumbs in the toaster may cause unpleasant aroma as well as corroded wires. Make your toaster crumb-clean;
8. A sticky plate on an iron gives poor results. Use a damp cloth dipped in borax to remove starch;
9. Lime on the element of the electric kettle slows "heating-up." It's time to de-lime. Follow directions on a bottle of scale remover;
10. The waterline in the vegetable saucepan should be low in order to cook food quickly. It is also necessary to cover the saucepan tightly as soon as food comes to a bubbling boil.
11. Interference in the operation of electric mixer may cause damage to beaters. Your motto should be: A rubber spoon keeps the beaters in tune!;
12. Dripping hot water taps mean wasted electricity. A new washer will likely remedy this;
13. When coffee is brewed too long, the element in a percolator may become corroded and eventually slow down speed of heating. Do not percolate coffee more than three minutes;
14. Excessive paste on the floor slows the operation and efficiency of electric polisher. Wax should be allowed 20 minutes to dry before polishing.
15. Grime or heavy grease on the electric fan may eventually damage the motor. Clean, then use "2 in 1" oil;
16. A damaged cord may blow a fuse. They should be repaired at once. Motto—Frayed ends jar the electric nerve;
17. When poor materials are used in packaging foods for the freezer the food shrinks, resulting in loss of quantity. In addition, moisture from the food seeps through around the edges of packages tied with string. Seal packages with locker-tape! This moisture freezes and forms a coating of frost on the inside of the unit forcing the motor to operate unnecessarily;
18. Too many electrical appliances operated at one time on the same circuit lessens efficiency of each appliance. It also frequently causes overloading, resulting in blown fuses;
19. Make certain that bulbs are secure in their sockets. Loose bulbs have a shorter life of service;
20. When replacing fuses be sure you do not use a stronger replacement. Damage or fire may occur if the fuse amperage is higher than the amperage of the circuit;
21. Lack of proper oil for electric motors, such as those used to operate circulating pumps, often causes damage. You should use the type of oil specified by the manufacturer in the manner directed;
22. Hobby shop motors need No. 10 oil;
23. There's danger in those bright "eyes." When a hot electric bulb is wiped with a wet cloth, it may explode. In cleaning an oven equipped with a light, be sure to wipe around the bulb socket.



"WHICH DO YOU WANT FIRST, DEAR--TOAST, COFFEE, OR YOUR PANTS PRESSED?"



Again the blackbirds sing; the streams
Wake, laughing, from their winter dreams,
And tremble in the April showers
The tassels of the maple flowers.

—J. G. Whittier, *"The Singer"*

HYDRO News



BLOSSOM TIME

VOL. 38 MAY, 1951 NUMBER 5



Don't touch that Fallen Wire!

Despite all of Hydro's careful precautions, there are times when storms or unavoidable accidents cause electric wires to break down. When that happens, *don't touch that fallen wire!* Your very life may be at stake.

Keep curious children—and adults—away at all costs. Shock, severe burns and worse can result from touching such a wire.

If you discover an electric wire on the ground or hanging dangerously low, remember these three things:

1. Don't, under any circumstances, touch the wire.
2. Stay on guard and keep *everyone* away until help arrives.
3. Have someone notify the police and the nearest Hydro office *at once.*

Nothing has been overlooked to give you the best possible electrical service. But, should trouble occur, your co-operation in being careful and warning others may prevent injury or even loss of life.

The Hydro-Electric Power Commission of Ontario

HYDRO News

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 UNIVERSITY AVENUE, TORONTO

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May, 1951

COVER SHOTS

ONE of the most gladsome harbingers of summer are the beautiful blossoms which deck the Ontario countryside with the bright promise of a bountiful harvest.

In striking contrast is the back cover photo which depicts the Commission's Cameron Falls Generating Station on the Nipigon River. The Nipigon annually transports vast quantities of valuable timber — the harvest of winter!

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The Hour Is Late!

IN a recent broadcast report to the people of Ontario Chairman Robert H. Saunders voiced the sentiments of a growing number of Canadians when he expressed the belief that the Government of Canada should proceed independently with the building of the St. Lawrence Seaway on the Canadian side of the boundary.

Mr. Saunders' remarks reflected the disappointing news he had received that a decision from Washington on this vitally important project might not be given this year. In fact, as the Hydro Chairman pointed out, there was only a remote possibility of action even in 1952 which is an election year in U.S.A.

This inaction is distressing to the majority of the people of both Canada and the United States, especially in the light of the common bonds which unite the two countries. Indeed, relations between these English-speaking peoples down through the years have been characterized by a fine spirit of team play.

It is understandable, therefore, that there is a mounting feeling of exasperation over the fact that a minority group, more concerned about selfish interests rather than the welfare and security of the Canadian and American people, has been able to block a project of such paramount importance.

It will be recalled that in 1948 Ontario Hydro and the New York State Power Authority made application through their respective governments to the International Joint Commission for permission to proceed with a joint development of the power resources of the St. Lawrence on a basis which provided for construction of the seaway at any time. This proposal met with the immediate approval of the Canadian authorities. But, in December of the same year, Washington turned down New York State's application ruling that only a combined seaway and power project would receive consideration. Since that time, however, continued efforts to get a favorable decision have failed.

Harnessing of the St. Lawrence would produce a total of 2,200,000 horsepower which is now going to waste and which would be equally divided between Ontario and New York State, thus providing Ontario with an additional 6,300,000,000 kilowatthours of electrical energy a year. In terms of human effort it has been estimated that this province's share in the St. Lawrence power output would be equivalent to the combined work of 28,000,000 men during an ordinary working year.

Ontario's need for this additional hydro-electric power is one of extreme urgency. If the province is denied access to this important source, then the Commission is faced with the immediate necessity of building and operating additional steam-electric stations at a tremendous additional cost to power users.

This fact is best explained by statistics which show that the 6,300,000,000 kwhrs available from the St. Lawrence would cost Ontario power consumers some $33,072,000 more per year if produced by steam-electric units instead of hydro-electric generators.

It can be readily appreciated, therefore, that Hydro cannot continue its policy of providing low-cost power for its consumers if it is faced with the necessity of producing power by steam to an ever-increasing degree.

In urging the Canadian Government to initiate independent action on the waterway scheme, Mr. Saunders crystallized the widely-held but hitherto unexpressed opinion of many serious-minded citizens when he declared: "The sand in the hour glass is running low and it is later than we think!"

A Worthy Successor

EARLIER this month, the Commissioners and Staff of the Toronto Hydro-Electric System bade a reluctant farewell to their Chief Engineer and General Manager, Edward M. Ashworth, upon his retirement from this responsible post after 41 years of faithful and efficient service.

Mr. Ashworth first became associated with Toronto Hydro in 1910—a year before the Queen City's present hydro-electric system came into being. During succeeding years he played an increasingly important role in the expanding operations of the Toronto system which now serves some 190,000 individual customers and is regarded as one of the largest, municipally-owned electrical utilities in the world. In 1920, Mr. Ashworth's outstanding abilities as an engineer and administrator were acclaimed with his appointment as Acting General Manager. He was confirmed as General Manager four years later.

The appointment of Herbert J. MacTavish to succeed Mr. Ashworth comes as fitting recognition of a fine record of service to Hydro. Mr. MacTavish joined the staff of Toronto Hydro in 1914. Following four years' overseas service during World War I, he became Assistant to the General Manager. He was appointed Secretary in 1924 and, in 1946 he also assumed the duties of Assistant General Manager.

The next few years promise to be challenging ones for Mr. MacTavish and the great system which he now heads, but, there is ample justification for confidence in the fact that he will maintain the fine precepts and the pre-eminent record of service established by his able predecessor.

An unusual photographic impression of the Commission's Head Office Building from the files of the late J. H. MacKay, an outstanding Canadian photographer.

Nearing Completion

ON the east shore of the Detroit River, near the bustling City of Windsor, construction teams are fitting together the pieces of another giant Ontario Hydro project.

It is the new J. Clark Keith Generating Station — destined to be Canada's second largest steam-electric station. Scheduled for initial service early this fall the huge plant will have an installed capacity of 198,000 kilowatts (265,000 hp) by November, 1952.

The 110-acre Windsor site has undergone striking changes since that eventful day in May, 1949, when Ontario Premier Leslie M. Frost turned the first sod. Dominating the scene today is the new generating station itself — a towering structure of reinforced concrete surmounted by two, 80-foot steel stacks. Occupying a commanding position on the bank of the busy Detroit River, the massive building is the first of its kind ever constructed by the Commission.

Latest available figures show that construction of the station building is approximately 95 percent complete. In the adjacent switching area, concrete footings have been completed and workmen are now erecting steel for the switching structures. The next step will be the installation of the step-up transformers required in transmitting power from the station to other points in the Southern Ontario system. Delivery of these transformers will be made in the near future.

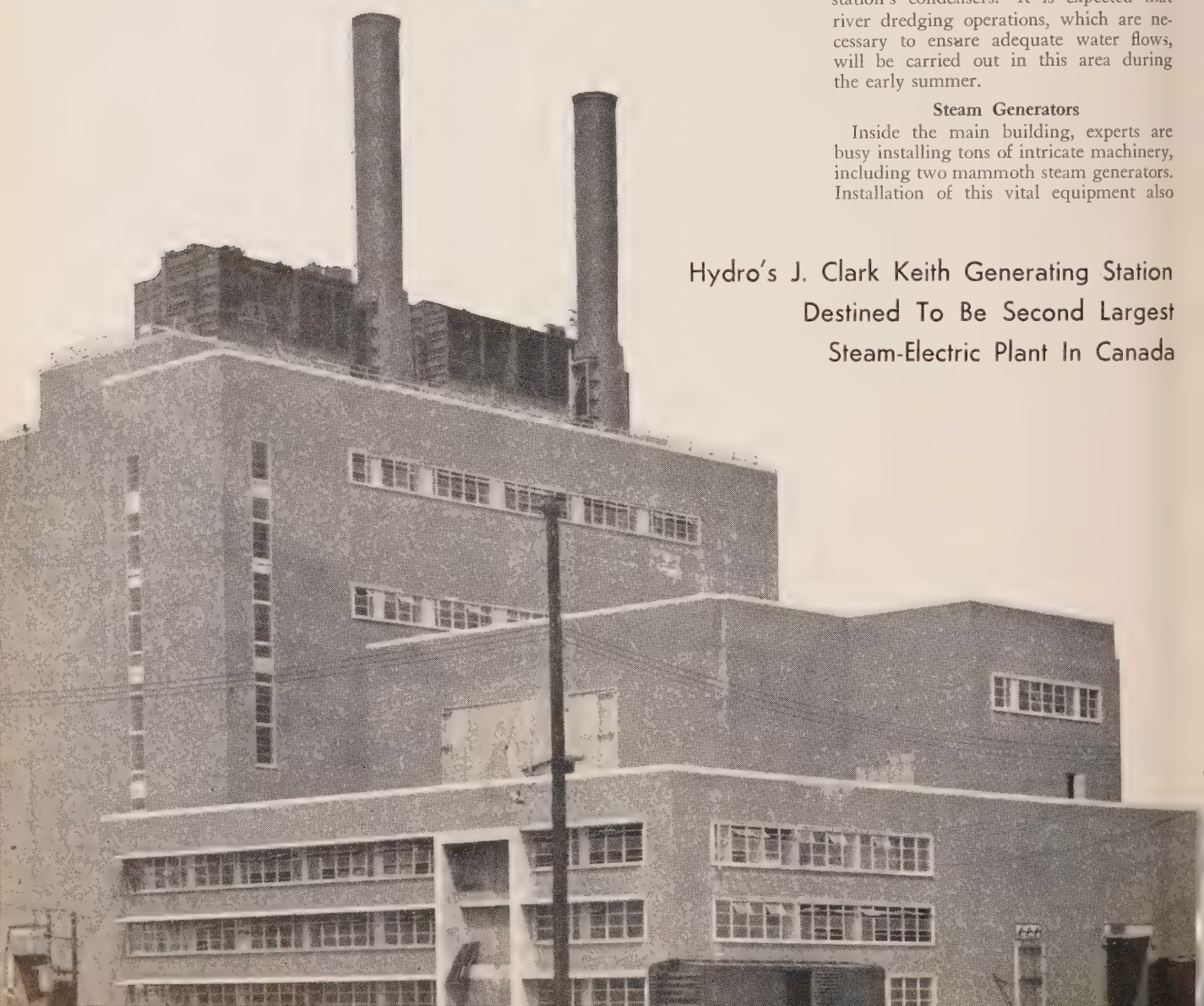
Workmen are also busy with the erection of the coal conveyor system which will carry coal from the Hydro dock on the waterfront to the stockpile. A large area has been set aside at this site for coal storage as it is estimated that each generating unit will use approximately 30 tons of coal per hour. Thus, when the station is placed in full service during the latter part of 1952, it will use some 3,600 tons of fuel during a five-day week on the basis of eight hours' operation each day.

Another auxiliary system on the waterfront, consisting of the screen house, intake and discharge channels is rapidly nearing completion. These facilities will be used to circulate the millions of gallons of cooling water required each day for the station's condensers. It is expected that river dredging operations, which are necessary to ensure adequate water flows, will be carried out in this area during the early summer.

Steam Generators

Inside the main building, experts are busy installing tons of intricate machinery, including two mammoth steam generators. Installation of this vital equipment also

by
Ian L. Thomson
Hydro News



Hydro's J. Clark Keith Generating Station
Destined To Be Second Largest
Steam-Electric Plant In Canada

involves welding and fitting together the 1,300-ton tube assemblies for each generator. Completion of No. 1 steam generator is scheduled for July. It is anticipated that steam will be raised in this unit during the early part of August.

Parts of the huge 66,000-kilowatt turbine-generators have arrived from the English Electric Company in England, and two experts from that firm are already on hand to supervise the erection of these parts. Each turbine-generator weighs about 470 tons.

Third Unit

While the job of installing the two units originally planned for the Windsor project is being pushed ahead at a rapid pace, ground is also being broken for an addition to the main building to accommodate the recently authorized third unit.

Construction of the project was started in the spring of 1949, and latest figures show that approximately 800 men are now employed at the site. The station was designed by H. G. Acres and Company, Consulting Engineers, Niagara Falls. General construction is being undertaken by Dinsmore Construction Company of Windsor, under the direction of Hydro engineers.

60-Cycle Power

Power generated at 60 cycles will be used to meet increasing requirements in the Windsor area. The balance will be transmitted eastwards to serve the main 60-cycle system.

This has involved construction of two new double-circuit transmission lines. One 230,000-volt line, which will operate initially at 115,000 volts, will transmit power to the E. V. Buchanan Transformer Station near London. The other, of 115,000-volt construction, leads to the new Windsor Transformer Station and thence to the Essex T. S. where it will be connected with the existing transmission facilities.

Important Climax

Completion of this station will mark another important climax in the Commission's tremendous expansion program which has been underway since the end of World War II.

In company with its Toronto partner the Richard L. Hearn Generating Station, the Windsor plant will come into service this year as Ontario's power demands start the steep climb to their winter peak.

Before Christmas, with the two units in operation, it will have an installed capacity of 177,000 horsepower. In November next year, when the third unit is scheduled for service, the installed capacity of this great plant will be further increased by an additional 88,000 horsepower to meet Ontario's insatiable and ever-growing demands for power.



GENERAL VIEW of construction in the switching area. Power will be transmitted from this point to E. V. Buchanan Transformer Station and also to the Windsor and Essex Transformer Stations.



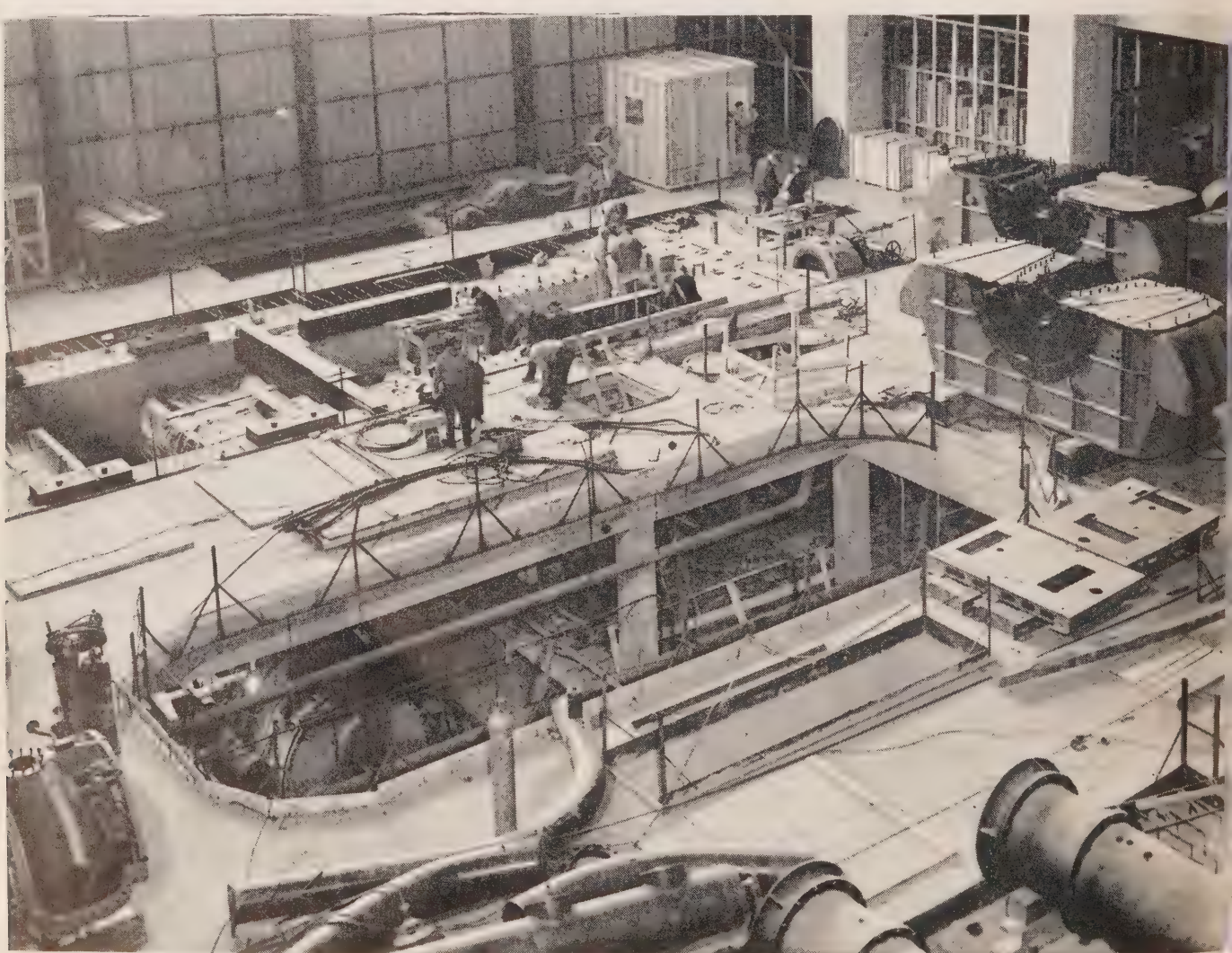
OVERALL VIEW of the screenhouse. This building houses the pumping equipment which will circulate the millions of gallons of water required each day for the station's condensers.

NEARING COMPLETION (continued)



WATERFRONT SECTION of the coal conveyor system which will carry coal to the huge stockpile nearby. It is estimated that about 30 tons of coal per hour will be required for each unit in operation.

GENERAL VIEW of installation work on the main operating turbine-generator floor. In the background preparations are being made for erection of No. 2 turbine-generator, parts of which are seen assembled at top right. One of the condensers for this turbine-generator is visible through the condenser well in the foreground (left).



HYDRO HOME FORUM



by
Edithemma Dighton
Home Economist



All women are agreed that every man needs someone to care for him — and judging by the number of wedding plans in the air these days, the men must believe it too! Practical showers can be most interesting. We attended a shower recently when the hostess collected a sum of money from the friends of the bride-to-be and purchased all kinds of staple supplies for the kitchen shelves. Then two friends, wearing absurd false faces, delighted the group with an informal dialogue concerning buying groceries for the new home. Meanwhile, the groceries were collected from the temporary shelves ready to take home. All in all, quite a unique idea!

* * *

At the trousseau tea, several friends are asked to pour the tea, each a short time. The hostess only serves tea to a group of eight or less in number.

* * *

At the wedding: The bride and groom are always served first. The bridal party should be served as quickly as possible after the bride and groom so there will not be any delay when it is time for the toasts. Wedding cake may be served on the plate which holds the glass of punch for the toasts. The toast to the bride is first on the list, of course, with the response by the groom who also expresses appreciation of the bridesmaid's assistance. The response to the toast to the bridesmaids is answered by the best man or an usher. Then the toastmaster may call upon a friend of the bride's parents to propose a toast to the bride's mother. The response is made by the bride's father. The toast to the groom's mother follows a similar pattern.

* * *

Silver wedding parties are quite an event, too! When the 25th anniversary is observed, the couple may be honored at their own home with friends or relatives providing the refreshments. The menu may include these items: a plate containing chicken mousse molds; cress and cream cheese sandwiches; asparagus rolls; crisp carrots and olives. The second course might be a parfait with peppermint sauce, accompanied by an iced cookie, and small cake. Tea or coffee may be served at this time along with the anniversary cake. Punch is served prior to a presentation or the toast to the couple.

* * *

Meringue shells are attractive and help to dress up desserts. For two dozen medium-sized shells, beat 2 egg whites; ⅛ tsp. cream tartar and ⅛ tsp. salt until frothy but not dry. Continue beating as ½ cup sugar and ½ tsp. vanilla are sprinkled over egg whites. Tint lightly. Spread the mixture in shell shapes on heavy ungreased paper placed on a cookie sheet. Bake in an electric oven of 275 degrees for about one hour. Remove from paper at once. Fill with sherbet or ice cream to serve.

* * *

To make cheese sandwich filling, mix mashed cream cheese with 2 tbsps. chopped salted peanuts; 2 tbsps. chopped raisins and 3 tbsps. chopped sweet pickle or watercress.

* * *

Plain cheese pressed through a cookie press into split cooked prunes or figs makes these morsels most atttractive.

* * *

Palate-pleasing pieces for parties are circles of bread topped with a slice of cucumber then a small shrimp and sprinkled with seasoned, sieved egg yolk.

* * *

For a delicious pudding, use cherries with a topping of gingerbread. Be sure to have a thin layer of cake and plenty of fruit and juice. To accomplish this, you should add about ⅔ cup sugar in 1½ cups hot water to 4 cups of pitted red cherries.

* * *

Left-over string beans, seasoned and marinated with French dressing go well with potato salad and sliced meat. To season, add a pinch (about ⅛ tsp.) of the new garlic-horseradish preparation.

* * *

Here are a few hints on looking after your electric refrigerator: When you go away from home for a few days, set control at low and keep the refrigerator running. If you expect to be away for a longer period, turn off refrigerator; take out perishable foods; empty ice cube tray and prop the door open.

* * *

Do not overload the refrigerator. Leave room around dishes of food to allow circulation of the cold air. Overloading, especially in hot weather, may cause motor to become hot.

* * *

To prevent ice cube trays from freezing together, be careful not to fill the pans more than three-parts full. Water expands when frozen and may cause ice cubes in one tray to freeze with those in the next tray.

* * *

Keep the door shut as much as possible; never let it stand open. Plan "take-outs" and "put-aways" so that you won't have to open the door any more than necessary in hot weather.

* * *

Oven meals eliminate top-of-the-range cooking and help to keep kitchens cooler and cleaner. Complete oven meals may be cooked in a preheated oven or from a cold start, and the quantity of food to be cooked will determine the baking period. Keep a time table of family meals; begin by allowing 30 minutes extra when setting time clock or starting in cold oven.

* * *

Main dishes such as meat loaf; dressed or plain pork chops; single-crust pies; stuffed tenderloin; barbecued meat balls; spareribs; thick ham slices; breaded veal cutlets and macaroni and cheese require 45 minutes to one hour in a preheated electric oven along with potatoes and a second vegetable of four to six servings.

by
Edith B. Toland
Hydro News



Where no CHI

THE little blond-haired lad trudged silently down the long, spotless corridor, his hand tightly clutching the red fist of the tall man beside him. Looking up thoughtfully, he asked, "Daddy, which brick did *you* buy?"

It was a significant question, for the many thousands of bricks that went into the building of the new Hospital for Sick Children were bought by many thousands of Canadian citizens from all walks of life. Rich and poor, old and young, their tribute to the humanitarian cause of healing sick children has culminated in the magnificent new building recently opened on Toronto's University Avenue, just across the road from the Commission's Administration Building.

Said to be one of the finest children's hospitals in the world, the new 14-storey structure is the result of some 20 years of careful planning, waiting, hoping, and praying.

The first children's hospital in Canada was a private house on the site of the present General Hospital, rented by Mrs. Samuel McMaster in 1875. It had six beds. In a few months the flood of little patients had grown so great that the hospital had to be moved to a larger building, followed by two more moves within the next ten years.

In 1892, the staff, greatly enlarged by this time from the original small group of earnest women, moved into the newly-erected structure at Elizabeth and College Streets. This building served faithfully the needs of children from all over Canada. Considered "the latest thing" in 1892, it nevertheless became antiquated as time went on, and has now been superseded by the University Avenue building.

Selection of the University Avenue site was based partially on the fact that this important hospital is also a teaching centre for medical, dental and research students of the nearby University of Toronto in their study of children's diseases.

Teaching rooms, including two auditoria, are located on the first floor of the new building. The larger auditorium will seat approximately 275 while the smaller room has a capacity of about 85.

Many Modern Features

From an operating room wired for television to night-lights with noiseless switches, the $12-million, 632-bed hospital incorporates the latest developments and the most modern methods of treating the illnesses, injuries, and handicaps suffered by children.

There are 12 X-ray rooms of various types, containing wholly electrical equipment. To prevent injurious rays from escaping from the room, each of the 12 is lead-lined, and often copper-shielded in addition, to prevent electrical interference with equipment in the room.

Fixed equipment (switches and receptacles) are explosion-proof and floors are spark-proof in any room where potentially explosive gases are used, chiefly in operating rooms. The "Hubbelite" floor, a special type of terrazzo, has enough resistance (minimum of 25,000 ohms) to prevent shock to personnel in case of faulty connections, yet is conductive enough (maximum resistance of 500,000 ohms) to drain off any static or electricity in equipment or personnel. For further protection, the same type of floor continues for some 10 feet outside the room itself.

An up-to-date system of lights and call-boards is used to indicate to the information desk and the telephone exchange which doctors are in the building. Colloquially called the "in-and-out" system, it also shows, by using lights of different colors, whether the "in" doctor is a surgeon, an eye-doctor, an anaesthetist, or some other type. This is of tremendous help if a specialist is wanted in a hurry.

A simultaneous paging system is used for calling doctors or nurses to the telephone or for relaying brief messages.

Speakers are located in corridors, dining-rooms, and so forth, but nowhere where they would disturb patients.



THIS STAINED glass window, erected by John Ross Robertson in memory of his wife and daughter, was moved from the old building to its new position in the spacious and colorful lounge on the first floor.

Provision has been made for oxygen to be piped into each of the rooms where the little patients are housed, as well as many other rooms. At the same time, an exhaust system is used to carry away the stale air.

Some 175 cubicles are equipped with ultra-violet germicidal lamps above the doorway. These 15-watt lamps provide a sort of invisible screen to prevent cross-infection, and are said to be almost 100 percent effective. It has been claimed that the use of one of these lamps is equivalent to 200 complete changes of air per hour.

Germicidal lamps are also used in the

(Continued on page 12)

REGISTERING COMPLETE satisfaction in his new surroundings, little Garry Banbury had a smile for everyone as he completed his trip from the old hospital.



ocks in vain



TECHNICIANS PREPARE a small patient for examination by the multiplane fluoroscope. There are three of these machines in the hospital — the only ones in Canada.



SKILLED SURGEONS and



CUBICLES WITH incubators have been and arranged in banks, the cubicles ha view. The entrance to each cubicle in th



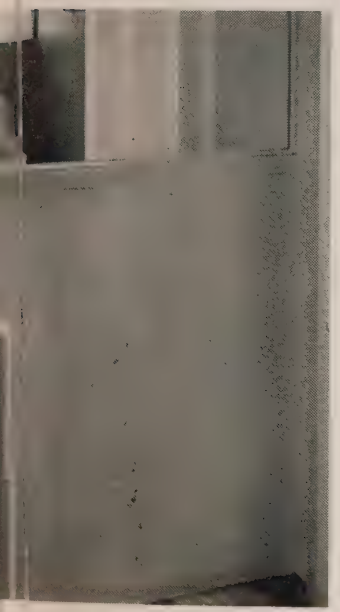
jor operating room.



A STRIKING feature in the Hospital's plan for instruction in surgical techniques, the observation panels set above two of the major theatres give students a clear view of operations.

★ ★ ★

YOUNG PATIENTS undergo treatment in the physio-therapy pool which is situated on the service floor of the building. This form of therapy is important in hospital rehabilitation work.



mature infants. Built of glass, ther so parents can get a close-up by a ultra-violet germicidal lamp.



exhaust from the virus department, to prevent the spread of bacteria.

A series of pneumatic tubes connects some 25 stations with the medical records and the Dispensary, so that no time is lost in obtaining valuable information or vital drugs.

Unique In Canada

Of special interest is the equipment in the three fluoroscopic rooms. It includes three multiplane fluoroscopes, of which there are only three in Canada. In fact, there are only 16 in existence, the other 13 being used in the United States. A large piece of equipment suspended from the ceiling, the apparatus is used to detect and locate foreign objects which children swallow. Prominent, amid a display of such retrieved objects at the hospital's recent "Open House", was a shiny new Canadian nickel, whose loss must have been a bitter blow to some little lad or lass.

A machine that records brain-waves may sound a little fantastic, but they have one of those at the new "Sick Kids" too. Called an electro-encephalograph, it is operated electrically, and measures the amount of fluctuation in radiations from the brain.

Other electrical equipment includes hot-air sterilizers ranging in size from 75 to 5,000 watts, used for sterilizing instruments of various sizes; blanket-warmers in recovery rooms (these are rooms in which surgical cases recover consciousness after an operation); and apparatus for maintaining a constant temperature of 120-180 degrees in the solution cabinets in operating utility rooms.

Practically every well-fed baby in Canada—and its mother—is familiar with Pablum, the cereal that is enriched with vitamins B1 and B2. It is only one of the hundreds of innovations developed by the hospital's research department. This development has made invaluable contributions to the world's medical knowledge and skill.

In this department, too, electricity plays its part. To take one example only, there is in the research lab, a "walk-in" incubator, electrically maintained at a constant heat of 98°F. Here, studies are made of various types of bacteria, to determine their reactions under different conditions and thus to find a way to combat them.

Hydro Serves Children

As the reader may conclude, Hydro plays a vital role in maintaining these services to the children of Canada. Some idea of the amount of electricity consumed by the huge building can be obtained from the fact that the daytime load is between 500 and 600 kilowatts, the night-time load about 300 kilowatts. As the hospital continues to grow in importance, this is expected to increase over the years. Incidentally, the new hospital also enjoys the distinction of being among the first public buildings in Toronto to use 60-cycle power.

The many ways in which Hydro serves in this house of healing, "where

(Continued on page 20)

HYDRO HELPERS

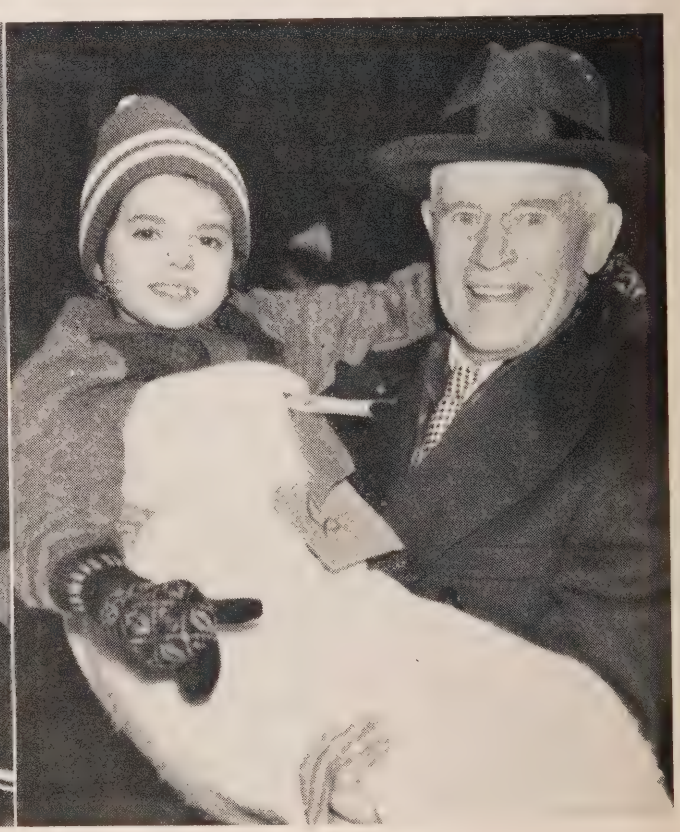
ONTARIO Hydro employees, in many ways, helped to make the new Hospital for Sick Children a reality.

Particularly noteworthy is the fact that some 6,957 employees of the Commission contributed approximately $13,200 to the building fund for the new hospital during the 1950 campaign. These figures represent an average contribution of about $1.90 per person.

In addition, some 80 employees of Hydro and Canadian Comstock Company voluntarily donated over 400 man-hours of work when they assisted in moving supplies and equipment from the old College Street Building to the hospital's fine new quarters on University Avenue.



ASSISTED BY Ontario Premier Leslie M. Frost, Dolores St. Germaine cuts the ribbon which officially opened the new hospital.



HELEN HENDERSON, well-wrapped for the trip from the old building, was carried by R. A. Laidlaw, Chairman of the Board of Trustees.

Photo-news



Deer on the Wing—Spring and a feeling of "joie de vivre" almost led this young deer to the brink of destruction when it jumped through a large window of Hydro's Toronto Power plant in Upper Queen Victoria Park at Niagara Falls. After posing for this photo, J. Adams, Alex Steward and Walter Lamb released the adventurous animal which had suffered no apparent ill-effects from its plunge.

Navy Aids Hydro Crew—

Ontario Hydro and the Royal Canadian Navy teamed up recently to extend a new rural power line across the Thames River at Kilworth.

Several attempts to throw a rope across the swollen river had failed. W. A. Potruff, Area Manager at Delaware even tried the bow and arrow method (inset) but this missile fell short of the opposite bank. In devising other means of continuing the job of stringing the new distribution line over the river, the Hydro construction crew used a Navy gun, but the projectile also missed its mark. Finally, under the supervision of Chief Petty Officer C. E. Short and Petty Officer A. S. Clements, a Navy rocket accomplished the job of spanning the river.



Hockey Night in Chatham



MEMBERS OF winning team pose with the trophy at the dinner held in their honor. Front row, left to right: George Field, Coach; Ross Babcock, Myles Emans, Captain; Ted Moir, George Down, Mel Drewery. Centre row, Jack Jamieson, Don Carey, Dick Hall, Pete Doddy, Ed Coyne, Al. Stevens, T. Wilcox. Back row, William Bell, Clayton Leach, Ross Garrod, Neil Murray, R. S. Reynolds, Bob Andison, Bill Phillips, Bill Emans.

CLIMAXING an exciting hockey season, Chatham Hydro hockey team emerged as city champions this year to win the R. L. Bevan Trophy.

This trophy, awarded annually to the winners of the City Hockey League, was formally presented by the donor during a dinner and social evening tendered in honor of the victors by the Chatham Public Utilities Commission.

In making the presentation of the cup to Team Captain Myles Emans, Mr. Bevan congratulated members of the team on the fine spirit of co-operation which they had manifested during the season.

Members of the Chatham Commission, including Chairman T. E. Howard, Mayor W. A. Donovan, Commissioner S. G. Thomson and Manager R. S. Reynolds also commended the team for their achievement.



RIGHT: R. L. BEVAN, donor, presents the coveted trophy to Myles Emans, Captain of the team, while Coach George Field looks on.



Appointed Assistant Manager

APPOINTMENT of P. Glenn Sanderson as Assistant Manager of Woodstock P.U.C. has been announced by W. F. Craig, Chairman of the Commission.

Mr. Sanderson was born near Dresden and received his early education at Dresden and Petrolia High Schools. On graduation from high school, he joined the R.C.A.F. as a pilot holding the rank of Pilot Officer.

On his retirement from the service after 2½ years' service, Mr. Sanderson enrolled at the University of Toronto, graduating in 1950 in Electrical Engineering.

During his university course, he was employed by the H.E.P.C. in Sarnia R.O.A. and the Repair and Maintenance Depot in Toronto; also one year as a carpenter on building construction in the Sarnia district. He joined the Woodstock P.U.C. on graduation from the University of Toronto in May 1950. Married, he has one daughter.



P. GLENN SANDERSON



ALVIN C. CLEMENS

Milverton Man Sets Another Record

HYDRO NEWS has learned of what is probably another record for public service. In this case it is Alvin C. Clemens, Chairman of the Milverton Hydro-Electric Commission, who, it is reported, was recently elected by acclamation for the eighteenth time.

Mr. Clemens was first appointed by Council when the Milverton Hydro was formed on September 30, 1915, and has been Chairman ever since. Thus, with this recent acclamation he has a record of thirty-six years of continuous service in that capacity.

A native of New Dundee, Ontario, Mr. Clemens is married and the father of two sons and a daughter. He was a hardware retailer until recently. He is now engaged in the cattle business. Mr. Clemens states that apart from being interested in all types of sports, his main hobby is raising Standard-bred horses. He is also a keen harness race fan.

COMPLETE FIRST SECTION

First section of a modern street lighting system has been completed, H. B. Loftquist, Chairman, Oakville P.U.C., announced recently.

New lines were laid out, he said, to link the proposed overall system. Improved standards, equipped with 500-watt bulbs have been erected about 75 feet apart along a substantial portion of the town's main thoroughfare.

The remaining part of the work will probably be undertaken this summer.

The Commission also plans to illuminate a north-south street, probably Reynolds Street, in the near future.

PLANT IMPROVEMENTS TO COST $50,000

Capreol Hydro-Electric Commission is to spend $50,000 during 1951 and 1952 on substation changes and additions to the local distribution system. The town council has received approval to finance the cost by issuing debentures amounting to $50,000.

NEW SUBSTATION

Work is well underway at Durham substation in connection with plans to increase the capacity from 600 to 2,000 kilowatts.

R. E. Flewelling, Superintendent of Durham P.U.C., pointed out that the local station had been handling a load 40 percent over capacity. The changes being made will take care of present power consumption and will also provide for further expansion in the future.

WEST FERRIS ACQUIRES LOCAL POWER SYSTEM

The Township of West Ferris, which has entered into a contract with Ontario Hydro for power supply, is to purchase and rehabilitate the local distribution system and substation, and install a new street lighting system at a total cost of $142,000. The township will issue debentures to meet this expenditure.

Woodstock P.U.C. Manager Dies

J. R. Sullivan Passes After Lengthy Illness

WIDELY-KNOWN in Hydro circles, J. Russell Sullivan, Manager of Woodstock Public Utilities Commission, died recently in Woodstock Hospital after a lengthy illness.

Born at Woodstock, Mr. Sullivan received his early education at Woodstock Baptist College. He attended McMaster University for two years, transferring to Toronto University to specialize in electrical engineering at the School of Practical Science.

On completion of his university course, he joined the Canadian Westinghouse Company in Hamilton and later moved to the Chevrolet Motor Company in Flint, Michigan, where he was in charge of electrical motor maintenance. He was also associated with the International Nickel Company for several years at Copper Cliff and Creighton Mines. Later he was placed in charge of the company's High Falls Generating Plant.

He returned to Woodstock in 1920 and joined the staff of the local commission under Manager J. G. Archibald. He advanced to the position of Assistant Manager, and was appointed Manager when Mr. Archibald retired in 1940.

President of the A.M.E.U. during the 1947-1948 term, Mr. Sullivan was a member of the Ontario Association of Professional Engineers for several years. The deceased took an active interest in the affairs of his native city where he was associated with several clubs as well as the Woodstock General Hospital which he served as a member of the board. He was also a member and official of Old St. Paul's Anglican Church.

He is survived by his wife, one daughter, one sister and four grandchildren.



J. R. SULLIVAN



EDWIN D. HOLDUP



GEORGE R. MORGAN

APPOINT BRITISH ENGINEERS

APPOINTMENT of two British engineers to key operating posts at Hydro's two new steam generating stations was announced recently.

George R. Morgan has been appointed Thermal Operations Engineer in direct charge of the 400,000-kilowatt Richard L. Hearn Steam Station, Toronto.

Formerly generation engineer for the Southeastern Division of the British Electricity Authority, he will supervise the operation of the Commission's five existing emergency steam plants in addition to the R. L. Hearn and the J. Clark Keith Generating Station at Windsor.

Edwin D. Holdup, formerly plant superintendent of the Kingston Generating Station of the British Electricity Authority, has been appointed Plant Superintendent of the 198,000-kilowatt Windsor project, scheduled for initial operation this fall.

The Commission, entering steam generation of electricity on a major scale for the first time, has found it necessary to appoint engineers with an intimate knowledge of modern British generating station practices.

Mr. Morgan was born and educated in Dundee, Scotland. During the early part of his career he served in varying engineering capacities in many parts of the world. In 1928 he joined the London Power Company as a junior engineer and later was appointed Charge Engineer at the 250,000-kilowatt Deptford West Generating Station. He returned to Dundee in 1941 to take up the position of Station Superintendent and Deputy General Manager of the generating station for that municipality. After serving more than four years in this post, Mr. Morgan returned to Deptford West as Boiler House Superintendent.

With the creation of the British Electricity Authority through nationalization, Mr. Morgan was appointed Generation Engineer for the Southeastern Division of England, where he was responsible for the administration of 14 stations ranging from a 250-kilowatt generator — the smallest in Britain — to a 300,000-kilowatt station.

Edwin D. Holdup, born and educated in London, England, was apprenticed to the British Thomson-Houston Company at the start of his career. He graduated from London University with a B.Sc. degree in electrical engineering, and later received his Master's degree. After a period of technical lecturing, Mr. Holdup entered the operations department of the Central Electricity Board.

In 1939 he was appointed to Deptford West Station as a junior engineer, later becoming Charge Engineer. He became Combustion Engineer at the 345,000-kilowatt Battersea Power Station in 1945 and in 1946 returned to Deptford West as Turbine House Superintendent.

With formation of the British Electricity authority in 1948 he was appointed Station Superintendent at Kingston Generating Station, where he remained until his appointment to Ontario Hydro.

E. M. Ashworth Retires

H. J. MacTavish Takes Over as Toronto Hydro's General Manager



PRESIDENT HAROLD MALLORY, Toronto Hydro War Veterans' Association, right, presented oil painting, executed by Marjorie Frith, to Mr. Ashworth.

EDWARD M. ASHWORTH, General Manager and Chief Engineer of the Toronto Hydro-Electric System, has retired after 41 years' outstanding public service.

Mr. Ashworth was born at Newmarket and began his career as an engineering assistant with the Canadian General Electric Company in 1900. He was appointed Sales Engineer in 1906 and held this post for the next four years. In 1910 he became associated with Toronto Hydro as Assistant to the Managing Engineer. He was Secretary and Assistant General Manager from 1913 to 1920 and Acting General Manager from 1920 to 1924 when his appointment as General Manager was confirmed. In 1930 he was also named chief engineer. He held both posts until his recent retirement.

During Mr. Ashworth's lengthy period of service, the Toronto System experienced rapid and phenomenal expansion. Today, it is regarded as one of the largest publicly-owned municipal utilities in the world.

Mr. Ashworth has been succeeded by H. J. MacTavish who has been associated with the Toronto Commission for the past 37 years and Assistant General Manager for the past five years.

Presented With Painting

On the occasion of his retirement and in recognition of his close association with them through the years, members of the Toronto System's War Veterans' Association presented Mr. Ashworth with an oil painting at their recent annual dinner.

Presenting the painting, which was executed by Marjorie Frith, daughter of Al. Frith, Supervisor of Street Lighting Maintenance at Toronto Hydro, President Harold Mallory thanked Mr. Ashworth for his continued interest and co-operation in all the activities of the Association.

In reply, the retiring General Manager said he had followed the growth of this group with keen interest. He lauded the comradeship which had developed through associations of this kind, and recalled the many friends he had made at the various meetings.

H. J. MacTavish

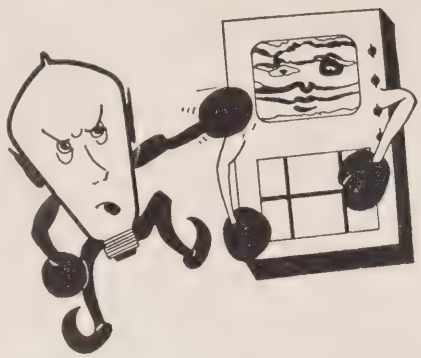
Introduced for the first time in his new capacity as General Manager of the Toronto System, Mr. MacTavish, Honorary President of the Association, told members that he, too, was deeply interested in the affairs of the W.V.A., and urged continued support of the organization in the years to come.

A native of Toronto, Mr. MacTavish also served with the Canadian General Electric Company in Toronto. He joined the engineering staff of the Toronto Hydro-Electric System in 1914. During World War I he served four years overseas with the Eaton Machine Gun Battery and the Royal Field Artillery. He returned to Toronto Hydro in 1919 as Assistant to the General Manager. In 1924, he was appointed Secretary to the Toronto Electric Commissioners in addition to his previous duties. In July 1946, he was appointed Assistant General Manager, which position he has held up to the present time.



H. J. MacTAVISH, new General Manager, has been with the Toronto Hydro since 1914.

New Lamps for Old



Have You One or More of These Gremlins in Your Home?

In the interests of better Television reception you HYDRO SHOP is offering to exchange free of charge a new 60 watt Western Hydro Long Life lamp for every old-style tungsten lamp. This type of trouble-maker is easily identified by the long thread-type inner construction. Not only do these old-style lamps seriously interfere with television reception but they are, in addition, extremely inefficient and wasteful of power

Check your porch, attic, living room and basement lamps for this type and bring them to your HYDRO SHOP. This offer is good for a limited time only to the residents of Kitchener

Exchange Your Old-Style Lamps Now FREE!

AT

YOUR HYDRO SHOP

OPERATED BY THE KITCHENER PUBLIC UTILITIES COMMISSION 191 KING W



Kitchener Hydro Shop's Exchange Offer Nets 350 Old-Style Bulbs

KITCHENER citizens disagree with the theory that you "get only what you pay for".

It all started when A. J. Thaler, Hydro Shop Manager at the Kitchener Public Utilities Commission office, discovered that old-style tungsten light bulbs were "television gremlins" in disguise.

These apparently inoffensive articles, he found, were giving off high frequency light rays which were distorting the image on the screen and interfering with sound reception of television sets in the Western Ontario city.

It was then that the local commission decided to take some definite action to eliminate this nuisance. They chose a very simple but effective method: the Hydro Shop set up a special window display and inserted advertisements (see illustration above left) in the Kitchener newspaper offering a new Hydro long-life bulb in exchange for each old tungsten lamp.

Although these reputed TV villains had not been on sale in Kitchener for 20 years, 350 or more of the old-style bulbs of almost every vintage were brought in for exchange. One customer brought in 13 during the "swap" campaign. Gloria Nichols, above right, is shown with a few of the 25-year-old bulbs which were traded.

Mr. Thaler received warm praise from a representative of the Telecommunications Division of the Canadian Department of Transport for his part in the exchange project. It was intimated that the Department was considering a full-scale plan to locate interference sources and would, at that time, enlist the co-operation of all Canadian householders in replacing offending light bulbs.

Toronto Hydro Appointments

THREE new executive appointments have been announced as a part of the re-organization of the administrative staff of Toronto Hydro-Electric System.

J. S. McGregor assumes the duties of Assistant General Manager; C. E. Schwenger becomes Chief Engineer while D. G. Moffitt has been named Secretary to the Toronto Electric Commissioners.

Born and educated in Toronto, Mr. McGregor joined Toronto Hydro in 1911 as Chief Clerk in the Accounting Department. He was appointed Paymaster in 1912 and Treasurer in 1941. He held this position until his recent appointment.

Mr. McGregor is President of the Electric Club of Toronto and a Director of the National Office Management Association.

A married man, with one daughter, he has held several Canadian paddling championships. Associated during this period with the Toronto Canoe Club, he later became an official and eventually Commodore of the Canadian Canoe Association.

Mr. Schwenger, a native of Hamilton, attended school in that city and graduated from Toronto University in electrical engineering.

He was associated with the Dominion Power and Transmission Company and the Canadian Westinghouse Company in Hamilton during his early career, leaving the latter company in 1910 to join Toronto Hydro as Equipment Inspector and draughtsman. He became Assistant to the Superintendent of the Underground Department in 1912 and was appointed to head the Distribution Department in 1913. He held this position until 1946 when he was appointed Assistant Chief Engineer.

Mr. Schwenger was President of the A.M.E.U. in 1932, and held the Toronto Electric Club presidency for 1944-45. A member of the Ontario Association of Professional Engineers, he has also been associated with the Canadian Standards Association, for many years serving as Chairman of numerous committees.

Mr. Moffitt, born in Italy of Australian parentage, was educated in his homeland and attended university there as well as in England, the United States and Canada.

A professional engineer, he held various technical positions in the Municipal Tramways Trust, Adelaide, Australia, before joining the Australian Imperial Forces in World War I. He served in Egypt and Gallipoli, and was wounded and invalided home to Australia.

Rejoining the Tramways Trust as Chief Erecting Engineer, he left the company in 1919 to go to the United States where he joined American Westinghouse in Pittsburg.

He came to Canada during that year and joined Toronto Hydro as an electrical engineer. He was appointed Assistant Executive, General Manager's office, in 1923 and remained in this capacity until World War II. At this time he was loaned to the British Purchasing Commission in New York as Secretary to the Anglo-French Purchasing Board. He later became Manager of the Production Department at the British Air Commission in Washington, and subsequently was named Chief Co-ordinator of Aircraft Standards.

He returned to Toronto Hydro in 1946 and was appointed Secretary to the Engineering Committee, Building Operating Committee, Service Committee and Accident Prevention Committee, co-ordinating the work of these bodies.



J. S. McGREGOR



C. E. SCHWENGER



D. G. MOFFITT

Nelson Affleck Retires

ASSOCIATED with the Lanark Public Utilities Commission almost since its inception, Nelson Affleck, Manager, retired recently with a record of 28 years' loyal service.

Lanark was first served with Hydro power in October, 1921. Mr. Affleck was named billing clerk early in 1923 and was appointed Manager some eight years ago. When Mr. Affleck joined the local commission it was serving about 85 customers. Today it has approximately 300 domestic and commercial customers and provides power for two factories.

The retiring manager recalls that the first radio in Lanark was assembled in his home and claims that he was the first owner of a washing machine in his village. This machine, he states, is still operating efficiently.

"In all my years as billing clerk, I had only one customer who failed to pay his bill," he said as he prepared to relinquish his duties.

WHERE NO CHILD - - -

(Continued from page 12)

no child knocks in vain," are indicated by the fact that motors used for various purposes range in size from fractional horsepower to big 25-horsepower pumps. Nearly half the equipment in the big, spotless kitchens, where some 6,000 meals a day are prepared, is electrical, including refrigeration for great, "walk-in" meat lockers with the capacity of railway refrigerator cars. There are some 1,400 fluorescent and more than 2,750 incandescent fixtures in the building, with an additional 1,000 of the latter type which are used in emergencies. Wall outlets total approximately 2,700.

Power is distributed to the hospital via three main feeders from the main switchboard. It is 208/120-volt service—that is, three-phase power is used at 208 volts and single-phase at 120 volts.

Emergency equipment consists of a 600-kva turbo-generator set located a block away in the Toronto General Hospital. If the regular power supply fails, this generator begins operation automatically through a relay on the new hospital's board. Output of the generator is at 2,300 volts, which is stepped down by a 300-kva transformer. This emergency power is made available to operating rooms, elevators, and equipment such as vacuum-compressed air pumps, circulating and fire pumps, and so forth.

This is not by any means the entire story of the new Hospital for Sick Children. The facts set forth in this article, however, do bear testimony to the fact that this great institution of healing is now equipped to greatly enhance its proud and world-renowned achievements chronicled over its first 75 years' of high public service to all children, regardless of race, color, or creed.

CONSTANCE BAY COTTAGERS TO GET HYDRO POWER

Ontario Hydro has started work on a new line to serve 300 summer cottages at Constance Bay near Ottawa.

It is anticipated that the $56,000 line will be completed shortly after the first cottagers arrive.

The Constance Bay power line is a section of the 80 miles of new line in the Arnprior-Ottawa area. This, in turn, is part of 752 miles of new line construction scheduled for Hydro's Eastern Region this year.

I have lost everything and I am so poor now that I really cannot afford to let anything worry me.

—Joseph Jefferson.

Membership Record

REGISTRATION of professional engineers in Ontario continues to establish new records, but the demand still exceeds the supply. This was the opinion expressed recently by W. H. M. Laughlin, Toronto, President of the Ontario Association of Professional Engineers which now has its highest membership: 8,900 registered engineers, and more than 3,500 student and under-graduate affiliates.

When the Association's 19-man executive council met a few weeks ago to consider 469 applications for registration, Colonel Thomas M. Medland, Executive Director, reported 360 applications already filed for the council's July meeting.

Dealing with these applications in a two-day meeting, the profession's government-authorized licensing body registered 346 of the applicants who now can officially designate themselves as "P. Eng's". Of those admitted, 133 were mechanical engineers. Some applicants were deferred for further consideration and the council directed 88 to write special examinations.

Among the engineers registered by the association were 20 Europeans, 2 Chinese, 14 from the British Isles, 4 from the United States and 1 Australian.

NEW SECRETARY AT KEMPTVILLE

ACTIVE in community affairs, Edna A. Bustard has been appointed Secretary-Treasurer of the Kemptville Hydro-Electric Commission. Miss Bustard succeeds the late R. J. Patterson, Secretary-Treasurer of the Commission and Village Clerk for several years.

A former member of the staff of Ontario Hydro, she was Secretary to Hon. George H. Challies, 1st Vice-Chairman, for four years prior to returning to Kemptville.

Miss Bustard was born and educated in Kemptville, where her father conducted a jewellery store for 40 years. She is a member of the Canadian Club, and takes an active interest in bowling and leather craft.



W. P. DOBSON

Who received the honorary degree of Doctor of Science at a special convocation of Queen's University, Kingston, this month. Further reference to this honor to Hydro's Director of Research will be made in the June issue of Hydro News.

Classified Ads

MANAGER WANTED

Woodstock Public Utilities Commission is accepting applications for the position of Manager to fill the vacancy caused by the death of the late J. R. Sullivan. The Woodstock Commission handles hydro and waterworks for some 5,000 consumers and requires the services of a graduate engineer and/or a member of the Association of Professional Engineers, one with considerable utility experience preferred. Salary will depend on the qualifications and experience of the person selected.

All applications should be addressed to Mr. W. F. Craig, Chairman Woodstock P.U.C., 524 Dundas St., Woodstock.

FOR SALE

Five C.G.E. series lighting outdoor regulators: 20 KW, 2,000/2,300 volt primary, 20 ampere secondary, 25 cycle. Price each — $300.00, F.O.B. Windsor. **Interested parties contact W. A. Shaw, Chief Engineer, Windsor Utilities Commission, Hydro Division.**

PLANT ADDITIONS

Cobourg Public Utilities Commission will spend $20,000 out of available funds this year on additions to the local distribution system.

I WISH I'D SAID THAT!

A GAME TO INCREASE YOUR VOCABULARY AND IMPROVE YOUR CONVERSATION

By Lincoln Hodges

EVER miss the point, say the wrong thing, and then blush? Here's an exercise in the art of conversation. First comes a statement that's made to you; then three possible replies you might make, only one of which proves that you get the drift. You pick the one. If you pick 19 or 20 right, you're superb; 17 or 18, just wonderful; 14 to 16, average-plus. Answers are below:

1 "It's a POIGNANT experience."
A So queer!
B So laughable!
C So distressing!

2 "She's an EXOTIC type."
A Foreign-looking.
B Awfully aloof.
C Very vivacious.

3 "We've reached an IMPASSE."
A Dead end?
B Dead beat?
C Deadline?

4 "His DULCET speech overcame her."
A He's a charmer.
B He's a bully.
C He's a bore.

5 "What a PHRENETIC woman!"
A Swell-headed, isn't she?
B Always in a frenzy.
C She has a sixth sense.

6 "He's given to the VERNACULAR."
A Loves spring.
B Loves swing.
C Loves slang.

7 "Ignore his FOIBLES."
A Such ideologies!
B Such idioms!
C Such idiosyncrasies!

8 "He wrote a CONTRITE letter."
A Very brief?
B Very formal?
C Very sorry?

9 "He testified as an ALIENIST."
A Heartbalm case?
B Sanity case?
C Immigration case?

10 "Did the President DECRY the act?"
A Yes, he opposed it.
B Yes, he imposed it.
C Yes, he proposed it.

11 "Look at that PREHENSILE trunk!"
A It's antediluvian.
B It's reptilian.
C It's good for grabbing peanuts.

12 "He's always RUMINATING."
A Hitting the bottle?
B Pounding his ear?
C Chewing his cud?

13 "We have automobiles GALORE."
A Yes, they're plentiful.
B Yes, they're de luxe.
C Don't be profane.

14 "Were his MYRMIDONS with him?"
A All his hounds.
B All his henchmen.
C All his harem.

15 "That youth is INCORRIGIBLE."
A Can't be discouraged.
B Can't be reformed.
C Can't be found.

16 "I found it in an ANTHOLOGY."
A A musical score.
B A book.
C A bargain counter.

17 "That's a VIRILE plant."
A It's vigorous.
B It's poisonous.
C It's odorous.

18 "I love this HURLY-BURLY."
A But it spins so!
B But it's so noisy!
C But the music is so bad!

19 "Meet me at the JETTY."
A I'll be on the balcony.
B I'll go to the gate.
C I'll wait on the wharf.

20 "We ate with GUSTO."
A Glad you liked it.
B Sorry you overate.
C Pretended to like it?

ANSWERS

1 C Poignant (POYN-yunt) stems from the same Latin word as pungent. It means keen; painfully moving.

2 A Exotic (eg-ZOT-ik) means literally from outside; foreign. It has come to mean strange-looking in an attractive way.

3 A An impasse (either IM-pass or im-PASS) is a blind alley; a place from which no withdrawal is possible.

4 A Dulcet (DULL-sit) means sweet to the ear.

5 B You can hear the similarity of phrenetic (frih-NET-ik) to the words that tell its meaning—frenzied, frantic.

6 C Vernacular (vur-NACK-yuh-ler) comes from a Latin word that means born in one's house; a *verna* was a slave so born. It means conversational language, as opposed to the literary tongue.

7 C Foible (FOY-b'l) comes from the same source as feeble. It means a weak point or failing; hence an idiosyncrasy.

8 C The Latin *contritus* means bruised. If you are broken down with sorrow, and truly penitent, we say you are contrite. (You may pronounce it either CON-trite or con-TRITE.)

9 B An alienist (ALE-yun-ist, or A-lih-yun-ist) is one who specializes in diseases of the mind; a psychiatrist.

10 A To decry (dih-CRY) means literally to cry down; to deprecate officially and publicly.

11 C The elephant's trunk is prehensile (prih-HEN-s'l) because it is fitted for grasping things. The Latin *prehensus* means seized.

12 C To ruminate (ROO-mih-nate) quite literally means to chew the the cud; hence to think over repeatedly just as a ruminant rechews its food.

13 A Galore (guh-LORE) comes from the Irish *go leor;* enough; plentiful; in abundance.

14 B A myrmidon (MUR-muh-don) is an unquestioning and sometimes unscrupulous follower; the original Myrmidons were a warlike tribe who served Achilles.

15 B Incorrigible (in-KOR-ih-juh-b'l) means not submissive to correction.

16 B An anthology (ann-THOL-uh-gee) is a collection of writings.

17 A Virile (VIRH-ul or VY-rul) means masculine or manly; hence exhibiting great strength or vigor.

18 B Hurly-burly (HUR-ly-BUR-ly) means commotion, tumult.

19 C A jetty (JETT-y) is a wharf or pier.

20 A Gusto ((GUS-toe) comes from the Latin *gustus,* taste, and means keen relish or enjoyment.

—REPRINTED FROM COSMOPOLITAN

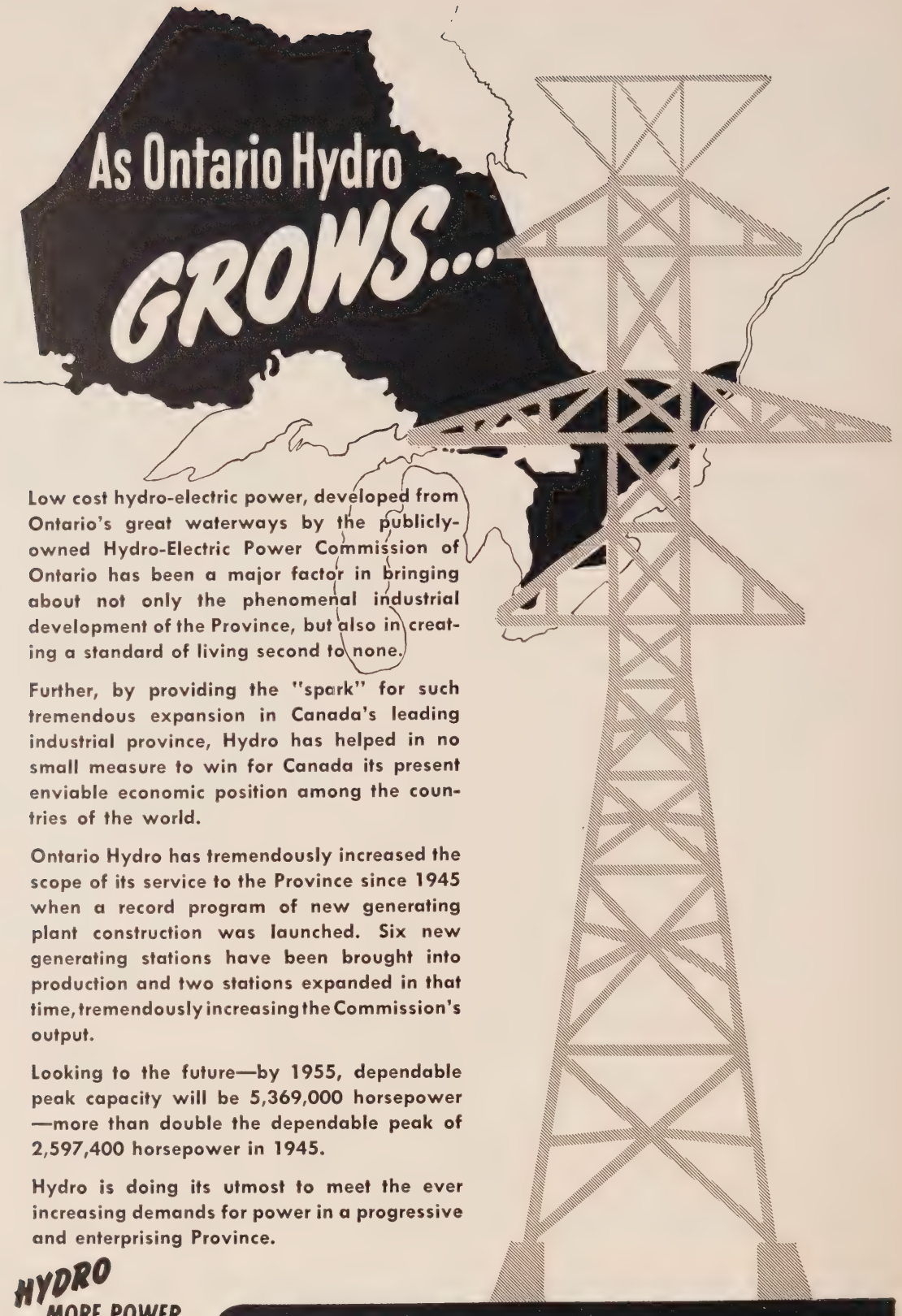

CAMERON FAL

HYDRO News



HORSESHOE FALLS

VOL. 38 JUNE, 1951 NUMBER 6



Low cost hydro-electric power, developed from Ontario's great waterways by the publicly-owned Hydro-Electric Power Commission of Ontario has been a major factor in bringing about not only the phenomenal industrial development of the Province, but also in creating a standard of living second to none.

Further, by providing the "spark" for such tremendous expansion in Canada's leading industrial province, Hydro has helped in no small measure to win for Canada its present enviable economic position among the countries of the world.

Ontario Hydro has tremendously increased the scope of its service to the Province since 1945 when a record program of new generating plant construction was launched. Six new generating stations have been brought into production and two stations expanded in that time, tremendously increasing the Commission's output.

Looking to the future—by 1955, dependable peak capacity will be 5,369,000 horsepower —more than double the dependable peak of 2,597,400 horsepower in 1945.

Hydro is doing its utmost to meet the ever increasing demands for power in a progressive and enterprising Province.

HYDRO
MORE POWER
FOR ALL
ONTARIO

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO
620 UNIVERSITY AVE. TORONTO, ONTARIO, CANADA

HYDRO News

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 UNIVERSITY AVENUE, TORONTO

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COVER PHOTO

WE are deeply indebted to Bell Aircraft Corporation, Buffalo, N.Y., for their kindness and generosity in loaning us the photograph which appears on this month's cover. This unusual impression of the Horseshoe Falls and the Upper Niagara River was recorded while a Bell H-13D helicopter was surveying the falls for the U.S. Corps of Engineers in connection with the recently-instituted joint project designed to preserve the natural beauty of the cataracts.

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June, 1951

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TORONTO SKYLINE

An Important Step

HYDRO has taken another historic step toward the ultimate goal of linking its three great systems and eventually integrating its resources with those of a vast, interconnected system.

When a new transmission line, extending from Moose Lake Transformer Station to Dryden Transformer Station—a distance of 105 miles—was placed in service recently, it was gratifying to realize that the resources of Hydro's Thunder Bay System and those of the Patricia District (part of a Hydro system known as the Northern Ontario Properties,) had been pooled for the first time.

In commenting on completion of this important line, Hydro Chairman Robert H. Saunders emphasized the fact that power from the Commission's Nipigon River Generating stations — part of the Thunder Bay System—would now be available to the Patricia District. This, he said, guaranteed still more efficient service to the many important industries and to the other customers in the latter area.

Construction of the new line, which cost an estimated $2,250,000, including terminal facilities, was carried out last winter during extremely cold weather. With sections of the line traversing the roughest terrain in Northern Ontario, it was necessary, at times, to deliver supplies by chartered amphibious aircraft to the camps which were located at 12-mile intervals. Contact was maintained with the camps by means of the Commission's radio communications system.

It was under these rather trying conditions that Hydro undertook the second step in its plan to interconnect the three systems of the Commission, i.e., the Southern Ontario System, the Thunder Bay System and the Northern Ontario Properties. The first step was completed last October when the Northern Ontario Properties were connected with the Southern Ontario System by means of a 115,000-volt transmission line between the Des Joachims Generating Station and the Crystal Falls Generating Station. The latter plant is situated on the Sturgeon River, some 10 miles north of the Town of Sturgeon Falls, between Sudbury and North Bay.

From the longer-term point of view, the new line between Moose Lake and Dryden may form part of a proposed interconnection with Manitoba. It is part of a scheme, visualized in the not too distant future, that will see Ontario Hydro an integral part of a huge interconnected system.

This system would extend from Shipshaw on the Saguenay River in Quebec, or even Grand Falls on the Hamilton River in Labrador (when developed) in the east, to the Winnipeg River plants in Manitoba. Interconnections at Windsor, Niagara and Cornwall would be made with adjacent United States power resources. These, in turn, would have interconnections extending as far south as Florida and west from Detroit to Chicago and the Mid-West States.

Atomic Energy

IN a recent address during a bankers' association convention in Atlantic City, N.J., Henry D. Smyth, a member of the Atomic Energy Commission, predicted that power plants, fueled by uranium, will be running "within a year or so," the Daily News Digest of the Federal Power Commission reports. While he said that the AEC was not certain whether such plants would be able to compete with power plants using conventional fuel, Mr. Smyth predicted that a pound of U-235 could release the same amount of energy produced by 1,300 tons of coal. Expressing the belief that technical problems would be overcome, the speaker was quoted as stating that the "major difficulty" in obtaining usable energy from a nuclear reaction lay in controlling the intense heat generated by such a reaction.

Mr. Smyth's address followed closely on the heels of a report that before the end of the year Britain would be building the first generating station to use atomic energy.

The experimental nuclear station, the report continued, would consist of a pile operating at temperatures up to 600 degrees Centigrade. Outward appearance of the atomic plant would be similar to a generating station which uses coal. The report also pointed out that the size of the power station of the future would be much the same as that of the average plant today, due to the necessity of placing several layers of concrete and lead to protect employees from the effects of radiation.

Dr. W. P. Dobson

IN conferring the honorary degree of Doctor of Science on W. P. Dobson, Ontario Hydro's Director of Research, at one of three convocations last month, Queen's University paid a well-deserved tribute to a man whose achievements have linked the Commission with many outstanding developments in the field of engineering and applied science during the past quarter century.

This honor to Mr. Dobson follows closely the award of the Wason Medal to two members of his staff, J. R. Leslie and W. J. Cheesman, in recognition of their work in the development and application of the Soniscope which is now regarded as the foremost tool for concrete study.

As Director of the Commission's Research Division, Mr. Dobson is in charge of the activities of Hydro's Laboratory in Toronto which has gained international fame in the field of research and testing. In addition, he has held the presidency as well as numerous executive posts in several leading national and international groups.

This further acknowledgment of the important contribution he has made to the advancement of scientific research serves to accentuate the high esteem in which he is held by his Commission colleagues as well as a host of associates in other spheres who unite in extending their sincere congratulations.



Canada's

by

Harry M. Blake
Hydro News

"A CAPITAL is more than a city and a seat of government — it is the symbol of a country's strength and unity, the spiritual home of its nationhood, and the face it shows to the world."

This maxim is an excerpt from a booklet published by the National Capital Planning Committee. But, it is more than just a high-sounding phrase to many Ottawans.

Witness, for example, Ottawa Hydro-Electric Commission's present expansion program. This program, of necessity, is concerned mainly with improving the "face" Canada's Capital shows to the world.

Judging by the commission's progress to date, it is evident that they intend to make it a smiling face — even a glamorous face — at night as well as during the daylight hours. By face, we mean, of course, lighting!

Ottawa is located at a latitude of 45° 20′ north, and darkness sets in fairly early during the winter months, veiling the mystic grandeur of the distant Laurentians and other fine prospects from Parliament Hill.

Good Lighting Important

The visitor can still view the architectural beauties of the Parliament Buildings under the floodlights, but tourists with an itching foot might like to do a little "boulevarding" on their own. Then, too, they often wish to visit theatres and other places of amusement, shop in the many stores still open after dark, or call on friends in various sections of the city.

For all of these peregrinations they need good lighting, especially when street names have to be picked out. Ottawa Hydro-Electric Commission is going to see that they get it!

Lighting Program

"Yes, we have a program in hand for the better lighting of downtown thorough-

APPEARANCE of Bank Street has been greatly enhanced by installation of modern lighting standards shown in photograph on the right.

BRIGHT Capital

fares," F. H. Plant, Chairman of the Ottawa Commission told *Hydro News*, "and we are extending this program to certain areas in the Townships of Gloucester and Nepean which were annexed last year by the City of Ottawa."

The Ottawa Commission is moving along according to its means, but already some very important improvements have been carried out.

Early this year Elgin Street was completely transformed throughout its entire length from Sparks Street to Argyle Avenue.

On account of the exceptional width of Elgin St., lighting standards with 17′ 6″ arms were set up, so that this handsome thoroughfare is now well-illuminated. Work has also been carried out on Carling, Parkdale and Bronson Avenues, as well as Rideau, St. Patrick and Bank Streets. In the Westboro district of Nepean alone, more than 280 lights have been erected and work is proceeding in other localities. The total estimated cost of this year's lighting program is estimated at $76,000.

Extending System

The annexation of the outlying townships of Gloucester and Nepean, in addition to the improved lighting required, has brought many new problems to the Ottawa Hydro-Electric Commission.

"The physical size of the city has been increased about five times with these annexations," Mr. Plant observed. "Last year we made some 2,800 connections to residences alone and the great majority of these were in the townships taken over."

The power demand upon the Ottawa Hydro-Electric Commission by all classes of consumers at the end of 1950 had mounted to approximately 135,000 horse power per month. At present, the Ottawa Commission is taking in the neighborhood of 57,500 horsepower under its contract with the Gatineau Power Company and the remainder from Ontario Hydro, except for a small amount of power produced at the Ottawa Commission's own generating stations at Chaudiere Falls.

Operating Surplus

The Ottawa Commission ended 1950 with an operating surplus of $753,870.

(Continued on page 23)

Ottawa Hydro-Electric Commission Installing New Lighting System On Main City Thoroughfares And In Outlying Areas



Canada's BRIGHT Capital

WITH THE ANNEXATION last year of Gloucester and Nepean Townships, the area of the City of Ottawa has increased materially, adding very considerably to the work and responsibilities of the Ottawa Hydro-Electric Commission. Here, in the well-appointed office of the local commission at 56 Sparks Street, J. W. McInenly (foreground) and D. W. Brown, Office Manager, are discussing service matters with new Hydro customers.



OTTAWA'S ELGIN STREET has been completely transformed throughou its entire length. Owing to the street's exceptional width, it wa necessary to use lighting standards with 17′ 6″ arms for overall illumination. These photos show Elgin St. looking north from Gladstone Ave



PRESENT-DAY BRITAIN



H. W. BECK

HORACE W. BECK, the Commission's Director of Supply, has just returned from an extensive and fast-moving business trip to Great Britain. While in the Old Land, he had an opportunity of seeing something of the British Industries Fair, the Festival of Britain and of meeting many people. Hydro News appreciates the courtesy extended by Mr. Beck in consenting to write this special article on his impressions.
—The Editor.



NIGHT VIEW taken from Westminster Bridge at the South Bank Exhibition Site of the 1951 Festival of Britain. The lighted Skylon dominates the scene while at left the chain of lights marks the Bailey access bridge from Charing Cross.

THIS is Festival Year in Britain and the world is beating a pathway to her door. Regardless of whether one goes with either preconceived ideas or an open mind as to the state of this venerable nation, it is soon abundantly clear that, notwithstanding grievous economic reverses, they are not dispirited. They are buoyant, self-reliant and very sure of themselves. This sureness they indicate by various ways and means but in no uncertain fashion.

In conveying this attitude they have made excellent use of the British Industries Fair (April 30 to May 11), and the Festival of Britain, which is a five-month celebration opened in May by His Majesty the King. The fact that London hotels and other accommodation are taxed to capacity reflects the popularity of these events.

The British Industries Fair, organized by the Government of the United Kingdom, in close collaboration with London and Birmingham trade organizations, is an annual event which was originated in 1915. It attracts 3,000 exhibitors from all over the world, setting forth the products of 100 industries. It is located in three separate sections, displaying lighter industry at Olympia, with textiles prominently featured at Earls Court, both points being in London, while Birmingham is devoted to engineering and hardware. All this is arranged in much the same fashion as our own Canadian International Trade Fair at Toronto.

The Festival of Britain, on the other hand, is a nation-wide display designed to show the contribution which Britain has made to present-day civilization, mainly through the advancement of science and art. Here again, there are different locations, the central exhibit being on the south bank of the Thames, directly opposite the Houses of Parliament. It is interesting to note that added access for pedestrians has been provided by Bailey bridging, which spans the river at this point. It was built by the British Army and its necessity is demonstrated daily by the heavy flow of people across the structure.

Dome of Discovery

The bridge leads directly into the Fair and on arrival one finds the architectural oddity, "Dome of Discovery," a central point of interest. It is a great bowl-like structure, roofed over with a huge inverted saucer, and within its vast interior is an imposing array of educational and functional items, largely in the realm of science. Many other fine buildings and exhibits are clustered about in orderly fashion, the whole presenting a pleasing picture of careful planning and fine execution.

Further up the river at Battersea is a beautiful park for relaxation and entertainment, and visitors, as well as the British people themselves, seem to find keen enjoyment in patronizing its many attractions.

The exhibition of industrial power at Glasgow and the industrial and agricultural exhibition at Belfast are other outstanding attractions of the Fair, which is featured in some fashion at most of the principal towns and cities throughout the land.

If all this were not a sufficiently convincing picture of the enterprise associated with the people of Britain, then a visit to some of the many major industries should provide arresting evidence of their genius. Cotton spinning at Manchester and the production of many large and small steel articles at Sheffield are outstanding examples of fine crafts. At the same time, the great electrical equipment production of Preston, Birmingham, Rugby and Newcastle emphasizes Britain's position in the forefront of scientific and industrial advancement.

At these latter points, major items of the Commission's requirements for steam and electrical generation are in process of production. In this connection, it is now evident that, generally speaking, deliveries of such equipment are on a 2- to 2½-year basis and the Commission is in the fortunate position of having forestalled such delays by early ordering. Shortage of steel is a basic factor behind this supply difficulty, with no relief in sight. Steel mills are now being confronted with shortages of raw material, mainly scrap and ore. In the light of these conditions the Commission will not be able to rely, to any great extent, upon sources outside this continent for its steel within the foreseeable future.

Automobile travel was best suited to the procurement of such a picture and an accumulation of something over 2,000 miles in two weeks was required.

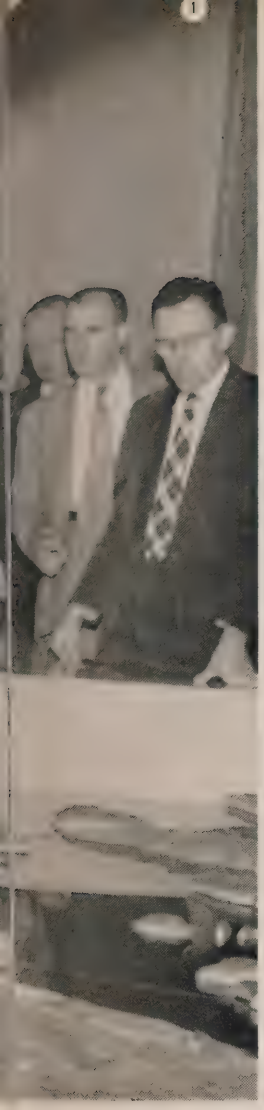
In the process, however, there was

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VISIT CANADA

U.S. Public Works Group Tours Welland Canal And Inspects Model of St. Lawrence Project

DURING their recent fact-finding tour of the St. Lawrence River and the Great Lakes area, several members of the Public Works Committee of the United States House of Representatives were guests of Ontario Hydro when they inspected a giant scale model of the proposed St. Lawrence Seaway and Power Project.

On arrival at Fort Erie, the members of the committee, headed by Hon. Charles A. Buckley, New York State, were received by officials of both the Canadian Department of Transport and the Ontario Hydro. Those who were on hand to greet the visitors included Guy Lindsay, Director of Special Projects and C. A. West, Director of Canals, while the Hydro officials present included Chairman Robert H. Saunders; W. Ross Strike, K.C., Second Vice-Chairman; R. L. Hearn, General Manager and Chief Engineer; Dr. Otto Holden, Assistant General Manager—Engineering; and James A. Blay, Director of Public Relations.

The visitors were conducted on an extensive tour of the Welland Canal. Later the same day the party assembled at the General Brock Hotel, Niagara Falls, Ontario, where they were guests of the Commission at a complimentary dinner. Those in attendance included His Excellency the Hon. Stanley Woodward, United States Ambassador to Canada.

Their inspection of the St. Lawrence model, which had been brought to Niagara Falls for the occasion, was highlighted by a brief but interesting address

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1. COMMITTEE MEMBERS listen attentively to description of St. Lawrence model by Dr. Otto Holden, Assistant General Manager—Engineering. Model was set up at Niagara Falls hotel in honor of committee's visit. 2. Cordial greetings are exchanged by Chairman Saunders and Hon. Chas. Buckley, New York State who heads committee. 3. General Lewis A. Pick, U.S. Corps of Engineers, chats with Mr. Saunders and Dr. Holden. 4. Committee members obligingly posed for this photo while on an extensive tour of the Welland Canal.



New Hydro Home

Modern Office Building of Toronto Township Hydro-Electric Commission Officially Opened



NEW BUILDING IS AN ATTRACTIVE ONE-STOREY STRUCTURE ON THE CENTRE ROAD NEAR COOKSVILLE.

"THIS fine new building exemplifies the successful partnership between Ontario Hydro and the municipalities of this province."

As he spoke these words, Hydro Chairman Robert H. Saunders cut the symbolic white ribbon to officially open the new offices of the Toronto Township Hydro-Electric Commission on June 8.

Situated on the Centre Road (Highway 10) near Cooksville, a progressive suburban community west of Toronto, the township's new hydro commission building represents the latest in modern architecture. Designed to provide expandable space to meet the growing needs of the municipality, the attractive building is a one-storey, red brick structure.

The appearance of this new public building has been further enhanced by tasteful landscaping which was carried out by Shore and Moffat, Toronto architects, while construction was handled by A. E. Rule Limited, contractors.

For the convenience of the public, the office has been sited toward the front of several acres of property recently acquired from Ontario Hydro.

Inside the main entrance which faces on the Centre Road, a display area, bounded on two sides by window walls, makes an ideal showroom for electrical merchandise. The spacious main office, embodying the latest features for the convenience and comfort of the staff, is separated from the display area by a low counter-wall.

In this section, clerestory windows on the north and east sides of the office provide ample natural light, free from glare, while modern lighting equipment is available to supplement natural light when necessary.

Meter Room

A board room and several private offices adjoin the general office on the north side of the building. The meter room, where meters are tested and repaired, is located adjacent to the rear entrance. The billing room, behind the general office, has been acoustically treated to minimize the noise of machines in operation. Additional storage space has been provided on this floor. However, when frequency standardization operations are completed in the township, it is anticipated that this space will be adapted to accommodate extra offices.

A fireproof, concrete roof ensures protection against the hazard of high tension wires running overhead, while the partial basement consists of another storage room of equal size to the space on the main floor, in addition to a lunch room and washroom facilities for employees. An oil-burning furnace, which will be used to heat the building, is also accommodated in the basement.

Adjacent to the township commission property is Cooksville Transformer Station and a storage building owned by Ontario Hydro. Present plans call for elimination of this station when 60-cycle power is made available to the area which the station serves. It is anticipated also that the storage building will be sold to the local commission at the same time, if desired.

Room for Expansion

In keeping pace with the noteworthy progress of the municipality, the Toronto Township Commission has made provision for further expansion in the future. Design of the new building will permit an

extension on the south side of the structure which is generally regarded as one of the finest municipal buildings of its kind in Ontario and a valuable asset to the community which it serves.

Evidence of the important, forward-looking step which Toronto Township Commissioners have taken, was the keen interest manifested by the large attend ance at the official opening ceremony.

Presiding as Master of Ceremonies was D. S. Dunton, Chairman of the Toronto Township Commission during 1950. Assisting Mr. Saunders in the ribbon-cutting ceremony were Robert Parkinson, retired Manager, who was associated with the commission for 33 years, and his brother, Stephen Parkinson, who has been with the local utility for an equal number of years. Dedication of the new build ing was performed by Rev. W. J. V. Buchanan, Cooksville.

In voicing his congratulations to the municipality, Mr. Saunders recalled that Hydro came into being "because men in this part of the province asked to have low-cost power in abundance for the benefit of the people of the province."



TWO TORONTO TOWNSHIP Hydro Commission veterans, Robert Parkinson, retired Manager, left, and Stephen Parkinson, right, assisted Chairman Saunders when he officially opened the office building. Back row group includes, left to right, D. S. Dunton, Toronto Township; Gordon Graydon, M.P., Peel County; Rev. W. J. V. Buchanan, Cooksville; Toronto Hydro Commissioner Bert Merson, A. W. Manby, Assistant General Manager—Administration, H.E.P.C.; Ontario Agriculture Minister, Hon. T. L. Kennedy, and Toronto Township Hydro Chairman Sid Wright.

314 Cost Municipalities

Today, as a result of this movement, Hydro was serving some 1,132 municipalities, of which 314 were cost municipalities. In addition, approximately 296,000 rural customers were receiving service.

Toronto Township, he said, has been actively identified with the great Hydro enterprise almost since its inception. Joining the Hydro family in 1913, the township had enjoyed steady growth since that time. For example, in 1925, the assets of the local commission amounted to some $172,131. By 1950 these assets had reached $1,007,342.

"This is a wonderful record of municipal business," the Hydro Chairman declared.

Growth of the township's load over the past quarter-century was a further evidence of progress and a steadily-improving standard of living. In this connection, the Hydro Chairman stated that in 1925 the municipality's domestic load was only 458 kilowatts. In 1950 this load reached a maximum of 7,372 kilowatts.

Turning to Ontario Hydro's expansion program during the past five years which he described as "greater than that of any other corporation on the continent," Mr. Saunders gave a brief review of the Commission's achievements during these years.

In dealing with the question of additional power supplies to meet anticipated demands in the next decade, the speaker

(Continued on page 21)

LARGE GROUP manifested keen interest in opening ceremonies. Inset, R. E. Starr, P. Eng., Mgr.-Secty. of Toronto Township Hydro Commission.



Duplicate Service Program

Hydro's General Manager Thanks Municipalities For Co-Operation In Reducing 25-cycle Load Growth

MUNICIPALITIES in many sections of Southern Ontario's 25-cycle areas are co-operating to the fullest extent in the duplicate service program recently initiated by Ontario Hydro.

This was the report of Richard L. Hearn, the Commission's General Manager and Chief Engineer when he addressed the spring meeting of District 5 O.M.E.A. at St. Catharines on June 6.

The program, he said, was instituted to keep load growth in the 25-cycle areas to a minimum by supplying 60-cycle power to new industries locating in municipalities in advance of the date these communities are scheduled for changeover.

Paying tribute to the local commissions for their help in this new program, Mr. Hearn stated that Ontario Hydro now felt certain that it could continue to control the balance between 25- and 60-cycle power.

Turning to the question of power supply, Mr. Hearn gave a detailed report on the new generating facilities placed in service and other sources of power which had been made available during the past two years.

He pointed out that in spite of the vast construction program it will still be a "close call" during the winter months ahead. The Commission was already experiencing record loads, he stated, and during May, 1951, primary energy demand figures showed increases approximately 20% higher than those of May last year.

It will not be possible to continue to bring in new facilities at the pace of the last two years, he continued. Looking to the future, he predicted that Hydro would not have any appreciable reserve until the Sir Adam Beck plant at Queenston is brought into service.

Immediate development of the St. Lawrence for power purposes is imperative if Hydro is to continue to meet demands and to build up an important reserve, Mr. Hearn stated. If this were not done in the near future it would have to expand its steam plant operations. Such a step would, of necessity, mean higher power costs in the future, he added.

Nevertheless, the Commission was continually investigating new methods to help overcome its problems. In this respect he reported that the Commission recently held meetings with officials of the Enfield Cable Company of England. The question of long distance D.C. transmission was discussed at these talks, and he said that the British manufacturers felt that the problem could be overcome within seven years.



LEIGH H. HARTMAN, Past President of the Ontario Association of Radio and Appliance Dealers, was speaker at the dinner held by District 5. Pictured with him are, l. to r., D.P. Cliff, O.M.E.A. President; Wm. Watterson, District 5 Chairman, and W. Ross Strike, Hydro's 2nd Vice-Chairman.

Business Meeting

Activities at the afternoon business meeting of District 4 were opened by Chairman William Watterson of Welland. Thomas Barnes, Niagara Falls, was elected to fill the unexpired term of District 4 Vice-President left vacant by the resignation of K. C. MacLeod, Stamford Township.

In calling for a new Director to fill Mr. Barnes' position, a nomination was put forward by an A.M.E.U. member in attendance. After a vote in favor of this election, Fred Cavers, of St.



LEFT: Discussing problems of municipal standardization after an interesting address on the duplicate service program are, l. to r., Ray Pfaff, St. Catharines; Roy Pierson, Brantford Twp. and Fred Cavers, St. Catharines.

Catharines, questioned the right of an A.M.E.U. member to propose a nomination such as this. Stating that he was, nevertheless, in favor of the actual nomination, he called for investigation of such voting power.

After consulting No. 4 District constitution regarding this matter, Mr. Cavers was requested to submit a written resolution defining an acceptable policy on the subject.

F.S.D. Discussion

Before conclusion of the business meeting, Mr. Watterson called on Ray Pfaff of St. Catharines to outline his Commission's experience with the new duplicate service program.

In an interesting and informative talk, Mr. Pfaff gave details of the various steps his commission has taken in carrying out its local changeover program. He revealed during his talk that local dealers are co-operating exceedingly well, and that the P.U.C. had experienced no serious problems to date.

Resolutions

The following resolutions were passed during the meeting:

(1) "That existing legislation with respect to Public Utilities be amended to permit the Municipalities to accumulate reserves in anticipation of expenses to be incurred in connection with conversion and expansion."

(2) "That this Association of District No. 5 endorse the efforts of the Executive of the O.M.E.A. to meet the Premier and inform him that the idea of an Advisory Board is not agreeable to the local Commissioners and request that they be granted the right to elect one member to the present H.E.P.C. Board, and that the Act be changed to include representation from the O.M.E.A. — one member of the Commission if composed of three members and two representatives if enlarged to five members."

(3) "Resolved that a uniform method of costing for repairs and for construction on other than the properties of the municipalities be established by the Hydro Electric Power Commission for the Municipalities."

(4) "That District No. 5 approves the principle of a two-day meeting and that we request the President and the Executive of the O.M.E.A. to take a poll of the member Commissions with the idea of finding out the type of program they would like. It is also suggested that all papers ordinarily presented at the joint meeting be sent to the local commission at least a week ahead of time for study, and that the joint meeting of the Association of the A.M.E.U., and O.M.E.A. be timed so as to allow for the discussion of these papers."



ABOVE: Taking advantage of the recess before dinner, Jim Smeaton, St. Catharines, left, and Frank Roach of Thorold, right, give a "royal" welcome to Allan Howard of Thorold.



RIGHT: Caught in a reflective mood before the meeting, three delegates pause for the photographer. Left to right, K. D. Taylor, West Central Region, Ontario Hydro, Geo. Boucher, Paris and S. Murchie, Brantford Twp.

BELOW: Smiles of welcome at the registration desk are given by John Munroe, Miss J. Taylor and Miss P. Martin of St. Catharines P.U.C.



HYDRO'S RESEARCH DIRECTOR HONORED

Queen's University Confers Doctor of Science Degree on W. P. Dobson

AT its recent annual Science and Commerce Convocation, Queen's University, Kingston, conferred the honorary degree of Doctor of Science on Hydro's Director of Research, William Percy Dobson, M.A.Sc.

In presenting him to Chancellor Charles Dunning, Dr. R. C. Wallace, Queen's Principal and Vice-Chancellor, described Dr. Dobson as "a man who is responsible for significant and far-reaching research in the development and transmission of electrical power."

Hydro's Research Director shared honors with Sir James Dunn and John Bertram Stirling, both of Montreal, on whom Queen's conferred honorary degrees of Doctor of Law. He was also accorded the honor of giving the main address to the new Science and Commerce graduates.

During his address, Dr. Dobson stressed the importance of high moral standards and continued education. While certain international trends were discouraging, the speaker admitted, it was gratifying to note the efforts directed toward improving the lot of unfortunate people; the strength of religious conviction and the presence of higher ideals among men in many walks of life.

He also pointed out that there is every reason for encouragement among young Canadians — particularly those with specialized training. The development of this country in all fields is offering opportunities to Canadian engineers, scientists, and other professional people to such an extent that it is unnecessary for a young graduate to leave the country — unless he so desires, he said.

"I believe that our great country is on the threshold of a better future and its future depends on you and your generation," Dr. Dobson told the graduates.

A native of Ballinafad, Ontario, Dr. Dobson received his early education in public school and at Harriston High School. Graduating from the University of Toronto in 1911 when he obtained his B.A.Sc., he was awarded a research fellowship of the Engineering Alumni and returned to the University where, at the 1914 convocation, he received his Master's degree.

Dr. Dobson joined the Commission in July 1914 as assistant engineer in charge of the laboratory, succeeding General H. D. G. Crerar, who was Commander-in-Chief of the Canadian Army Overseas in World War I.

In addition to publishing technical papers in many engineering and scientific journals, Dr. Dobson is also a member of several societies and serves on Canadian, American and International committees including the National Research Council of Canada, American Institute of Electrical Engineers, International Electrotechnical Commission and the American Standards Association.

Closely-associated with standards work in this country, he is a member of the main committee of the Canadian Standards Association. He was a member of the executive committee until 1950, and held the chairmanship of the Approvals Division from 1940 to 1950, in addition to serving as a member of numerous other committees.

Dr. Dobson was President of the Ontario Association of Professional Engineers in 1939, and held the presidency of the Dominion Council of Professional Engineers from 1942 to 1945. He was also President of the Canadian Association of Physicists in 1948.



DR. DOBSON receives congratulations from Dr. R. C. Wallace following the convocation ceremonies. Dr. Wallace is retiring this year as Principal and Vice-Chancellor of Queen's University.

NEW LINDSAY SUBSTATION

John Lightbody, Manager of Lindsay Hydro-Electric Commission, recently announced that the local commission had selected a site on Durham Street, in the southern section of the town, for the location of a new substation.

Equipment at the new plant will be self-enclosed, eliminating the necessity of erecting a special building. Sufficient property has been acquired to permit expansion in the future.

A New Cycle



COLBORNE STREET, MAIN THOROUGHFARE AT OAKVILLE WHICH HAS JOINED THE 60-CYCLE FAMILY.

by Allan Jones

PUBLIC RELATIONS DIVISION
(F.S.D.)

"SMOOTH and with a minimum of trouble!"

That was the comment of one Oakville newspaper in describing a unique phase of Hydro's frequency standardization program completed on May 27.

On that day, during a single cutover, some 6,000 users of 66⅔-cycle power in Oakville, Burlington, Bronte and Trafalgar Township joined the ever-widening circle of 60-cycle Hydro power consumers.

This operation marked the first step in eliminating the "66⅔-cycle-island" in Southern Ontario which also includes sections of the Welland-Port Colborne area as well as Hamilton.

Interesting Background

The story of 66⅔-cycle power goes back to the year 1788 when a Canadian pioneer, John DeCou, acquired considerable property — for a "blanket and doubloon", according to reports — adjacent to the falls, which, with a slight change (now Decew Falls) still bear the name of this United Empire Loyalist settler.

DeCou built several mills on land which, in 1898, became the site of one of the earliest high-head developments in Canada, and is still often referred to as the "Cradle of the Canadian Hydro-Electric Industry".

This plant, located on Twelve Mile Creek, near St. Catharines, was designed to generate 66⅔-cycle power — not considered unusual at that time when many frequencies, ranging from 16⅔ to 133 cycles were in use.

Purchased by Commission

The historic Decew Generating Station, purchased by the Commission from the Dominion Power and Transmission Company in 1930, has supplied 66⅔-cycle power to the lakeshore communities involved in the recent changeover operation for many years.

But the cutover itself was completed in record time. When power from the old Decew plant was cut off, crews from Ontario Hydro's Toronto and West Central Regions also took advantage of the interruption to carry out annual line repairs in the areas affected. Approximately 90 minutes later service was restored when 60-cycle generating stations, some over 200 miles away, began feeding power into the district.

60-Cycle Design

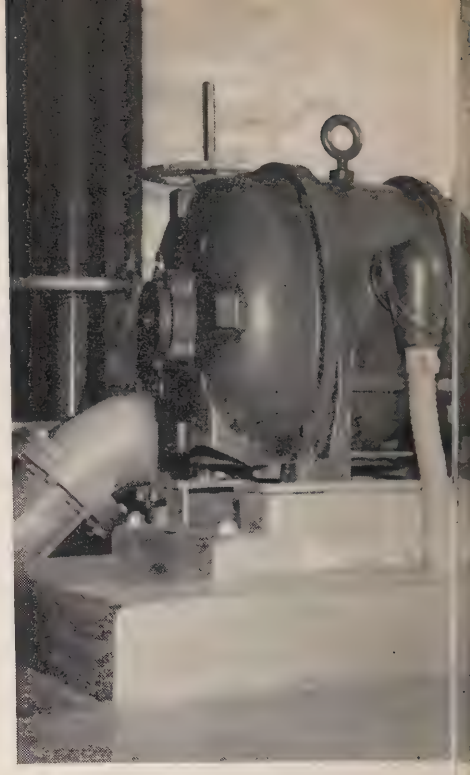
The fact that most of the electrical appliances and equipment in this part of the 66⅔-cycle island were originally designed for operation on 60 cycles and required no alteration, was responsible, to some extent, for the speed and ease with which this particular operation was accomplished.

Chief activity was the exchange and alteration of clocks and fans. A surprising number of these items, all designed for operation at 66⅔ cycles were brought in for exchange. A preliminary survey indicated there would be some 700 clocks of this type. Actually, some 1,400 or more timepieces of various types were exchanged, as well as numerous 25-cycle

(Continued on page 23)



OFTEN DESCRIBED as the "Cradle of the Hydro-Electric Industry", Decew Falls 66 2/3-cycle plant, scheduled for changeover to 60-cycle operation, was placed in service in August, 1898.



OPERATOR T. E. WITHNELL checks performance f motor in Oakville pumphouse after 60-cycle po r was turned on. This 100-horsepower motor requ d only minor changes for operation at higher cy .



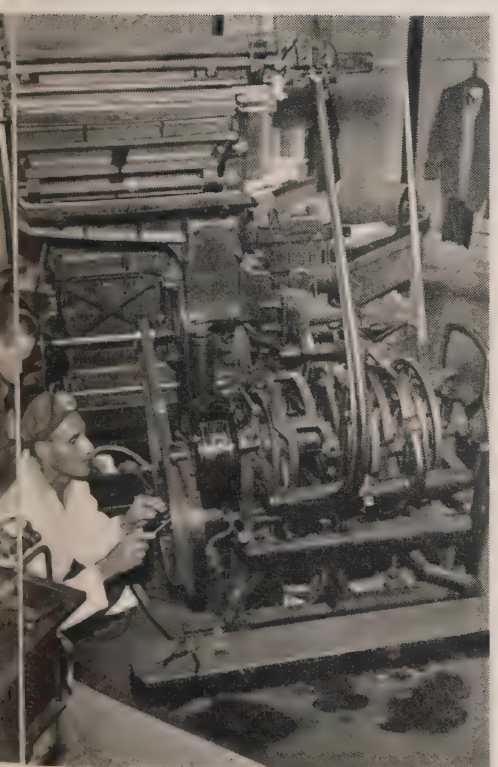
UNDER THE "Big Top" at Burlington, Hydro set up its clock and fan depot, marking the first use of canvas for this purpose since the big changeover project began in 1949.



A NEW CYCLE – Continued



ALTHOUGH JUSTICE may be considered "blind", Oakville's magistrate's court has had flickerless, fluorescent lighting fixtures since E. J. Robinson made the alterations above.



FRANK PRICE, Acting Area Project Manager, watches as nest Couture makes pulley changes in linotype machi during changeover at Oakville newspaper plant.

OAKVILLE TOTS Charyl Paul and Carol Zuback, marvel at the mechanism of a record player which is being altered for 60-cycle operation by Comstock Technician S. Lazzaro.



Press Visit —Members of the Fourth Estate, representing several Ontario daily newspapers, were guests of the Commission recently, when they paid a visit to the Sir Adam Beck-Niagara Generating Station No. 2 project. Accompanying the party were Chairman Saunders, W. Ross Strike, Second Vice-Chairman; R. L. Hearn, General Manager and Chief Engineer, and Dr. Otto Holden, Assistant General Manager — Engineering. who are shown on the right, with several representatives. This photograph was taken on the new Bailey Bridge structure which spans the tailrace of the present Sir Adam Beck No. 1 Generating Station.

Photo-news



C.N.I.B. Homemakers' Course

UNDER the sponsorship of the Guidance and Recreational Committee of the Canadian National Institute for the Blind, Edithemma Dighton, Hydro Home Economist, left, recently conducted four "workshop" periods during a three-month series of lectures on home making. Held in the cafeteria of the Institute's National Headquarters on Beverley Street in Toronto, the lectures were, for the greater part, demonstrations of the actual use of modern electrical kitchen equipment. The 36 blind ladies who attended the course displayed amazing aptitude in the use of several appliances, including electrical mixers. In this photo, Mrs. Dighton is demonstrating the operation of a portable rangette.

Airborne Fire-Fighters

RESPONDING to an urgent appeal from the Ontario Department of Lands and Forests, Hydro recently sent one of its helicopters to help fire-fighters in their battle against a 40,000-acre forest fire in the Gogama district, about 40 miles south of Timmins, Ontario. Normally used for line patrol, the helicopter was stripped of all excess equipment so that it could carry a fire-fighter in addition to about 200 pounds of fire-fighting equipment. The huge blaze in this area was the worst of the year, according to T. E. Mackey, Chief of the Division of Forest Protection, who said it had been started by lightning and had spread over an area through which a serious fire raged in 1941. Ontario Hydro Pilot Smith Pruner and a fire-fighter, Leonel Carier, are seen at the right prepatory to a trip from the Gogama Lands and Forests Station into the fire area.





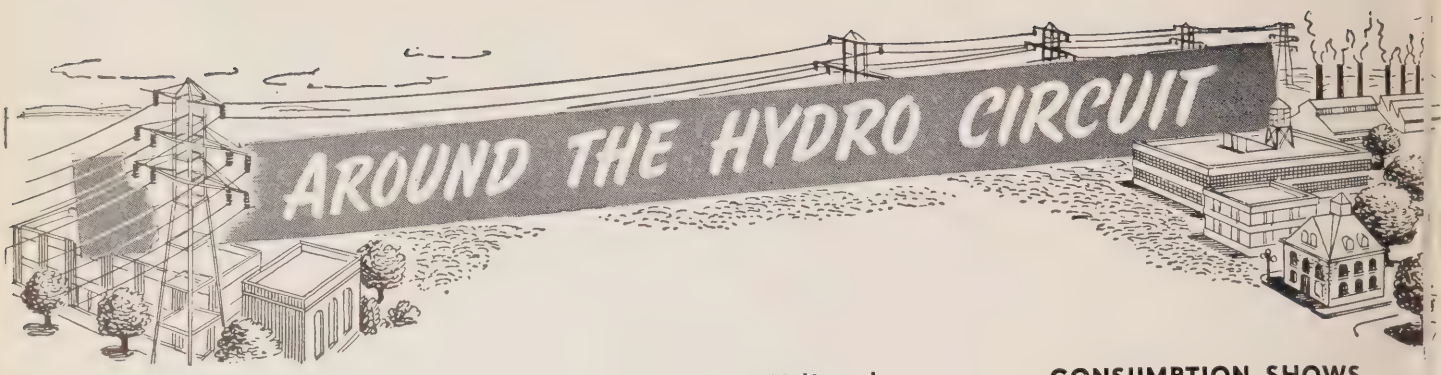
Visits Hydro Laboratory

VISITING Canada to study research developments in the power field, G. W. Marshall, Deputy Chief Engineer — Research, British Electricity Authority, devoted much of his time to studying methods at Hydro's Strachan Avenue Laboratory. Prominent in the research field, Mr. Marshall also visited the Commission's Ottawa River developments as well as the Niagara River stations. His visit to Hydro was the result of a trip to Britain last year by Dr. W. P. Dobson, Hydro's Director of Research, when tentative plans were laid for a mutual interchange of research information between the B.E.A. and H.E.P.C. Mr. Marshall (right) and Dr. Dobson are shown at left studying the Bolometer — one of the developments of the Hydro lab.

St. Thomas "First"

ST. THOMAS scored an important "first" in Western Ontario recently by taking the lead in supplying 60-cycle power to industries, in advance of the regular frequency standardization program. Shown during a switch-throwing ceremony at Weatherhead Co. of Canada. Ltd., are, left to right, N. E. Kilmer, Vice President and General Manager of the firm; Dr. E. C. Glidden, Mayor of St. Thomas; Hydro Chairman Robert H. Saunders, P. R. Locke, St. Thomas P.U.C. Chairman, and A. W. Manby, Hydro's Assistant General Manager — Administration.

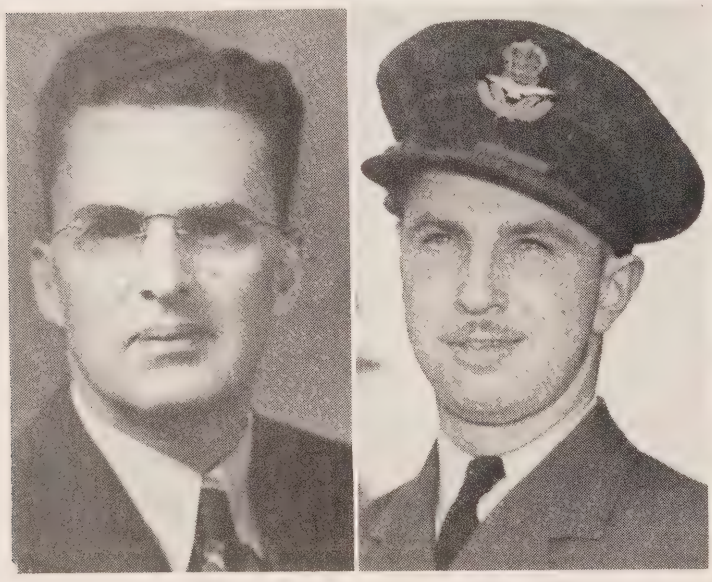




System Rehabilitation Underway at Midland

MIDLAND Public Utilities Commission reports favorable progress in carrying out a long-term program of system rehabilitation and improvement. One of the major projects of the overall plan is the construction of a new central sub-station which is scheduled for service within the next few weeks. Completion of this new plant will enable the Midland Commission to serve a substantial number of customers over 4,000-volt primary lines replacing the existing 2,300-volt service.

Midland Commissioners also plan to build two new sub-stations in order to take power from Ontario Hydro at 44,000 volts instead of 22,000 volts as at present. At the same time, the system will be further improved by building several new lines and, in other instances, installing heavier conductors on existing lines.



W. J. BISHOP J. A. SPENCE

Guelph Board Announces Re-organization

GUELPH Board of Light and Heat Commissioners has announced the appointment of W. J. Bishop, formerly Superintendent and Secretary, as General Manager of the Commission. Further re-organization of the Guelph staff has resulted in the appointment of J. G. Gow as Secretary-Treasurer while A. G. Stacey, P. Eng., assumes the duties of Superintendent of the Electrical Department. J. A. Spence has been named Superintendent of the Gas Department.

CONSUMPTION SHOWS 138 PERCENT INCREASE

AVERAGE domestic consumption at Owen Sound has increased over 138 percent during the past 11 years, Robert Butter, General Manager of the Public Utilities Commission reported recently.

In 1939, average monthly domestic consumption was 111.8 kilowatthours. By 1950, it had reached 264.7 kilowatthours per month. Part of the increase was due to the fact that the local gas plant discontinued operation in 1939, Mr. Butter points out. Since 1945, however, consumption has increased from an average of 142 kilowatthours per month to the 1950 figure, an increase of 86% or 17.2% per year.

COBOURG SURPLUS

Cobourg Public Utilities Commission completed the past fiscal year with a total surplus of $9,611.92, consisting of $8,456.65 in the electrical department and $1,155.27 in the water department.

The local commission now has a total reserve of some $45,000 and is planning to spend $25,000 out of this account on a new lighting system on King Street, one of the main thoroughfares in the town.

ETOBICOKE HYDRO TO BUILD GARAGE

Construction of a garage building for the Etobicoke Hydro-Electric Commission at a cost of $40,000 has been approved. The Township of Etobicoke has been authorized by the Ontario Commission to issue debentures to finance this work.

TRIPLE POWER CONSUMPTION

Consumption of power in Galt has tripled in the past 15 years, according to a recent report from the local commission.

Ontario Hydro billed Galt Public Utilities Commission for 18,600 horsepower in February this year. The city had a total load of 6,369 horsepower in 1936. Galt uses nine times as much power as it did in 1918.

NEW HYDRO HOME

(Continued from page 11)

stressed the vital need for early development of the resources of the St. Lawrence River.

Expressing the hope that a definite answer would be given on this matter within a short time, he declared: "If United States is not going ahead with the joint development of this great river, then Canada should proceed independently."

Toronto Township Hydro Chairman Sid Smith, in replying to Mr. Saunders, expressed the hope that all citizens would work together to make an even better municipality.

Greetings were extended to the local commission by Col. the Hon. Thomas L. Kennedy, Ontario Minister of Agriculture; Gordon Graydon, K.C., M.P.; D. P. Cliff, Dundas, President of the O.M.E.A., and E. R. Lawler, Manager of the Toronto Region, Ontario Hydro. Robert Moffat, representing the architectural firm, and A. E. Rule, representing the contractors also conveyed congratulations to the com mission.

Building Inspection

Short addresses by Commissioners G. D. Pattinson and W. E. Wright and R. E. Starr, Manager and Secretary, concluded the formal program which was followed by an inspection of the building. Refreshments were served to the guests by ladies of the Boy Scout Auxiliary, assisted by several Scouts of the local organization.

Hydro Forms Public Relations Division

FORMATION of a Public Relations Division with James A. Blay as Director was announced recently by Chairman Robert H. Saunders.

Creation of the new division, which comes directly under the Chairman's office, marks the culmination of a policy inaugurated three years ago when Mr. Saunders was appointed to his present position. It crystallizes the progress achieved by Ontario Hydro in line with the original objective of keeping the public fully informed at all times in respect to the operations of the Commission.

Mr. Blay, who heads the new Public Relations Division under the Chairman, has been identified with the Commission for more than 12 years and has held a number of key positions including those of Field Supervisor and General Supervisor of Promotion. Prior to his latest appointment, he was Manager of Promotion.

Started With London P.U.C.

Born and educated at London, Ontario, where he took special courses at the University of Western Ontario, Mr. Blay started his career with the London Public Utilities Commission on the sales staff. Before coming to Ontario Hydro, he was associated with the Canadian Westinghouse Company at Hamilton.

In addition to carrying out his important duties with the Commission, Mr. Blay has been actively connected with the Ontario Association of Radio and Appliance Dealers, and is an Associate Director. At the same time, he represents Ontario Hydro on the Board of Directors of the Electric Service League of Ontario and is a member of the Association of Canadian Advertisers.



JAMES A. BLAY

Not only has he been an active figure on the electrical scene, but his work has brought him into wide prominence in the newspaper, advertising and motion picture fields.

New Appointments at Toronto Hydro



TORONTO Hydro-Electric System recently announced a re-organization of its administrative staff. Those receiving new appointments were, front row, left to right: H. A. Russell, Engineer, Station Construction Dept.; H. B. Little, Assistant Chief Engineer; G. W. Appleton, Comptroller; W. J. Wylie, Director of Consumer Service; M. White, Director of Supply; H. Hyde, Engineer, Distribution Planning and Design Dept. Back row, left to right: H. E. McBroom, Engineer, Meter Dept.; F. W. Ball, Engineer, Stations Operating Dept.; J. F. Thomlinson, Manager, Power Sales Dept.; L. D. Campbell, Engineer, Service Maintenance Dept.; H. J. Chambers, Engineer, Station Planning and Design Dept.; G. L. Lillie, Engineer, Distribution Construction Dept.; J. Ford, Manager, Garage Dept.; W. A. Macivor, Manager, Stores Dept., and O. J. Sherbourne, Purchasing Agent.

E. M. Ashworth Honored

IN recognition of his long and devoted service, Edward M. Ashworth, retired General Manager and Chief Engineer of the Toronto Hydro-Electric System was honored recently by Commissioners and members of the staff. Presentations to Mr. and Mrs. Ashworth, during a brief ceremony at the Toronto Hydro offices, are shown on this page.

1. Mr. Ashworth expresses his thanks for three handsome travelling bags presented to his wife and himself. Mr. Ashworth's successor, H. J. MacTavish, is in the background. 2. Mr. and Mrs. Ashworth are congratulated by Ontario Hydro Chairman, Robert H. Saunders after presentation of an oil portrait of Mr. Ashworth. 3. Loftus H. Reid, Chairman of Toronto Hydro, was Master of Ceremonies for the occasion. 4. Miss Helen Murphy, newest employee at the time of Mr. Ashworth's retirement, presents bouquet to Mrs. Ashworth. 5. Walter Sellors, employee with longest service, presents a silver tray on behalf of the employees.











VISIT CANADA

(Continued from page 9)

by Dr. Otto Holden, Assistant General Manager — Engineering. Measuring more than 47 feet long and 12 feet wide, the model depicts the St. Lawrence River from Montreal to Prescott. It also incorporates the ship canal, proposed 36-unit power plant, control dam and locks.

Immediate Construction Imperative

Commenting on the power situation in Ontario, Chairman Saunders said it was imperative that an immediate start be made on the St. Lawrence development.

He emphasized that the project would be the soundest possible type of investment for both countries. Continuing, the Chairman pointed out that 6,300,000,000 kilowatt-hours of electrical energy per year would be made available to New York State and a similar amount to Ontario if the St. Lawrence were harnessed. He also stressed the fact that it would cost two mills per kilowatthour to generate power under the terms of the 1941 Agreement with United States. On the other hand, it would cost, at present-day prices, seven and one-quarter mills per kilowatt-hour to produce a similar amount of power by steam, he said.

Expressing the hope that the visiting members would obtain all the information they required, Mr. Saunders assured them of Hydro's closest co-operation in making all facts available.

Committee Members

The United States Party, in addition to its Chairman, Hon. Charles A. Buckley, included the following committee members: Hon. Howard H. Baker, Tennessee; Hon. John A. Blatnik, Minnesota; Hon. Clifford Davis, Tennessee; Hon. George A. Dondero, Michigan; Hon. Robert E. Jones, Jr., Alabama; Hon. Henderson Lanham, Georgia; Hon. Henry D. Larcade, Jr., Louisiana; Hon. Russell V. Mack, Washington; Hon. Hubert B. Scudder, California; Hon. Frank E. Smith, Mississippi and Hon. Tom Pickett, Texas. The party also included army officers from the U.S. Corps of Engineers, headed by General Lewis A. Pick.

PRESENT-DAY BRITAIN

(Continued from page 7)

much pleasurable observation of a very beautiful countryside, well-tilled and heavily stocked with cattle and sheep; a people cheerful, courteous and industrious; a nation still capable of contributing much to the future welfare of mankind. It is for we fortunate people on this side of the Atlantic, who are not plagued with food monotony or shortage, inferior wearing apparel, endless queueing up, or aged automobiles, to give every co-operation possible in helping the gallant people of the Old Land overcome some of the more exacting of the many problems they are being called upon to face during these challenging times.

New Tillsonburg Station

WORK is progressing satisfactorily at the new Bloomer Street sub-station in Tillsonburg which is scheduled for service within the next few weeks.

Designed to ease the present heavy load on the local system, the sub-station will have dual-frequency transformers, in preparation for frequency standardization operations in Tillsonburg. Present plans call for the new station to feed the south half of the town from Hale and Venison Streets. Power will be distributed from the new plant over new lines at 4,000 volts.

Combined cost of the station and new distribution facilities is estimated at approximately $120,000.

A NEW CYCLE

(Continued from page 15)

models owned by customers who had recently moved in to the "66⅔-cycle island" from 25-cycle areas.

Record Players

Record players posed a momentary problem. The change in frequency caused some turn-tables to run at around 70 r.p.m. instead of the standard 78. Owners reported sopranos sounded like bassoes until standardization crews arrived to make the necessary adjustments.

Industrial customers were the only power consumers whose equipment required alterations. The "flatbed" press of one of the Oakville newspapers, for instance, was found to run about 10 percent slower, after the changeover, necessitating replacements of large pulleys.

Ontario Hydro Acting Area Project Manager F. O. Price was in charge of the entire operation. Other Hydro men associated with the project were G. C. Cooper, Area Planning Engineer; S. C. Howard, Area Negotiations Officer; D. A. Martz, Service Operator at Oakville, and Crawford Clark, Burlington Service Operator.

Will Change Plant

The final chapter of the story will be written in August this year, when some 900 users of 66⅔-cycle power in Hamilton and in the Welland-Port Colborne area, will receive 60-cycle power. Shortly afterward the old Decew plant, veteran of 53 years' service, will commence operation at 60 cycles, and the "66⅔-cycle island" will be no more.

CANADA'S BRIGHT CAPITAL

(Continued from page 5)

This surplus was used for capital expenditures. Funds will be made available this year for the installation of 1,600 new street lights; extension of Hydro service in the annexed areas; additions to Hydro substations at Overbrook, and Beechwood Avenue, and a new sub-station at Clyde Avenue.

The 1950 operating surplus included returns from the former assets of the Ottawa Light, Heat and Power Company.

Commenting on the tremendous gains, Mr. Plant gave credit to the splendid co-operation of retiring General Manager S. W. Caniff and staff. The splendid co-operation given last year by the members of the 1950 Commission was also a factor, he said.

The Ottawa Commission recently announced that Frank H. Plant would serve as Chairman of the Commission for the remainder of 1951 and for 1952. It also announced that George R. Davis, Assistant General Manager, had been appointed Acting General Manager until August 27, when he will officially succeed General Manager S. W. Canniff who is at present on three months' leave of absence.

Other 1951 members of the Ottawa Utility are — Mayor Grenville Goodwin and E. A. Band, Commissioners, and W. C. Lewis, Secretary-Treasurer.

GEESE CHASE METER READER!

Fred Schaefer, Secretary of the Public Utilities Commission at Tavistock, climbs over all kinds of queer obstructions in order to reach domestic and commercial water and power meters to take readings. At a meeting of the P.U.C. here this week, Mr. Schaefer complained that everything from turnips to furniture may be piled in front of the meters.

"I even have to go through a pig pen to get at one meter," declared Mr. Schaefer. "At another place the geese chased after me. Some meters are in coal bins, while others are in cabinets."

—Stratford Beacon-Herald

MUNICIPAL LOADS, APRIL, 1951

SOUTHERN ONTARIO SYSTEM

WESTERN REGION

(25 and 60-Cycle)

	Peak in K.W.	Total Consumers Dec., 1950
Ailsa Craig	173	213
Alvinston	155	306
Amherstburg	1,510	1,118
Arkona	131	176
Aylmer	1,825	1,185
Beachville	893	233
Belle River	353	549
Blenheim	782	916
Bothwell	198	292
Brigden	134	190
Burgessville	103	91
Chatham	10,587	6,727
Comber	170	219
Cottam	126	205
Courtright	83	166
Dashwood	144	157
Delaware	133	109
Dorchester	166	222
Dresden	632	770
Dutton	240	324
Embro	223	195
Erieau	184	294
Erie Beach	20	123
Essex	810	927
Exeter	1,165	966
Forest	718	735
Glencoe	267	398
Granton	63	118
Harrow	760	552
Hensall	310	309
Highgate	107	152
Ingersoll	3,885	2,117
Kingsville	836	1,038
Lambeth	322	302
LaSalle	533	503
Leamington	2,434	2,522
London	43,466	27,417
London Twp.	827	747
Lucan	303	306
Merlin	125	212
Mount Brydges	152	266
Newbury	68	115
Norwich	610	557
Oil Springs	164	201
Otterville	153	264
Parkhill	399	447
Petrolia	1,038	1,147
Point Edward	2,297	537
Port Stanley	535	1,170
Ridgetown	599	912
Riverside	2,391	2,682
Rodney	226	386
St. Clair Beach	138	172
St. Thomas	9,216	6,056
Sarnia	12,501	7,278
Springfield	103	167
Strathroy	1,838	1,364
Tecumseh	628	1,031
Thamesford	320	223
Thamesville	334	402
Thedford	174	261
Thorndale	146	115
Tilbury	1,148	909
Tillsonburg	2,660	1,914
Wallaceburg	6,853	2,330
Wardsville	99	111
Watford	571	446
West Lorne	617	379
Wheatley	368	399
Windsor	59,315	34,101
Woodstock	10,079	4,860
Wyoming	139	258
Zurich	210	244

WEST CENTRAL REGION

(25 and 60-Cycle)

	Peak in K.W.	Total Consumers Dec., 1950
Acton	2,615	925
Ancaster Twp.	595	549
Ayr	308	324
Baden	603	227
Blyth	283	289
Brantford	25,484	11,451
Brantford Twp.	3,429	3,125
Bridgeport	312	303
Brussels	311	368
Burford	390	336
Burlington	2,546	2,014
Burlington Beach	696	894
Caledonia	481	646
Cayuga	201	297
Clifford	163	195
Clinton	1,125	914
Delhi	838	1,046
Drayton	179	253
Drumbo	136	157
Dublin	72	106
Dundas	3,630	2,264
Elmira	2,021	863
Elora	640	488
Fergus	1,863	1,078
Galt	14,544	6,034
Goderich	2,334	1,916
Guelph	15,304	7,874
Hagersville	1,298	647
Hamilton	173,180	59,970
Harriston	681	567
Hespeler	3,629	1,147
Jarvis	183	227
Kitchener	34,592	12,787
Listowel	1,823	1,207
Lynden	144	143
Milverton	616	407
Mitchell	1,045	761
Moorefield	95	121
New Hamburg	959	584
Palmerston	678	590
Paris	2,244	1,577
Plattsville	261	165
Port Dover	724	1,154
Port Rowan	169	327
Preston	5,181	2,253
Princeton	165	138
Rockwood	205	255
St. George	226	243
St. Jacobs	334	217
St. Marys	2,091	1,447
Seaforth	1,122	783
Simcoe	3,226	2,535
Stoney Creek	679	614
Stratford	8,956	5,994
Tavistock	711	450
Waterdown	461	424
Waterford	582	615
Waterloo	7,730	3,421
Wellesley	178	220

NIAGARA REGION

(25 and 60-Cycle)

	Peak in K.W.	Total Consumers Dec., 1950
Beamsville	693	606
Chippawa	447	524
Dunnville	1,768	1,562
Fonthill	438	454
Grimsby	1,115	1,000
Humberstone	714	1,087
Merritton	9,805	1,343
Niagara Falls	11,904	6,859
Niagara-on-the-Lake	915	942
Port Colborne	2,264	2,292
Port Dalhousie	1,094	953
Queenston	151	119
St. Catharines	31,852	11,974
Smithville	416	287
Stamford Twp.	5,406	4,426
Thorold	3,618	1,799
Welland	11,490	4,300

TORONTO REGION

(25 and 60-Cycle)

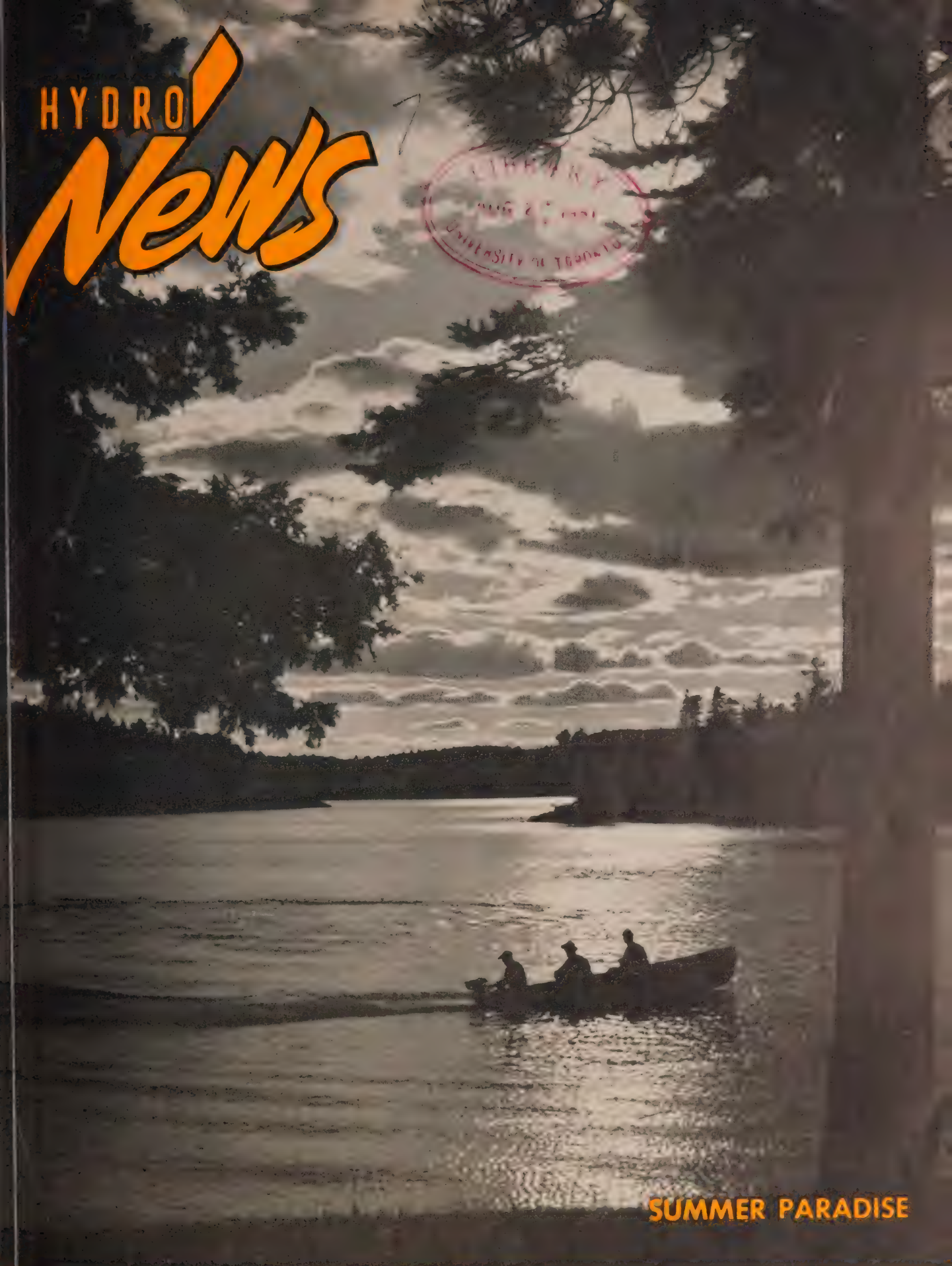
	Peak in K.W.	Total Consumers Dec., 1950
Agincourt	556	293
Aurora	1,858	1,157
Bolton	320	311
Brampton	4,423	2,581
Bronte	262	425
Campbellville	72	79
East York Twp.	20,240	16,941
Etobicoke Twp.	23,640	14,620
Forest Hill	7,775	4,764
Georgetown	2,552	1,356
Long Branch	3,500	2,472
Markham	589	565
Milton	1,966	869
Mimico	3,957	3,196
Newmarket	2,796	1,634
New Toronto	11,566	2,722
North York Twp.	35,125	23,770
Oakville	4,153	2,121
Port Credit	1,534	1,081
Richmond Hill	933	747
Scarboro Twp.	16,247	12,924
Stouffville	739	629
Streetsville	743	359
Sutton	389	717
Swansea	3,635	2,568
Toronto	406,138	190,007
Toronto Twp.	8,577	5,992
Trafalgar Twp.	1,391	1,109

MUNICIPAL LOADS, APRIL, 1951

	Peak in K.W.	Total Consumers Dec., 1950
Weston	5,900	2,468
Woodbridge	1,456	492
York Twp.	31,132	28,037
GEORGIAN BAY REGION (60-Cycle)		
Alliston	717	721
Arthur	291	400
Bala	141	494
Barrie	6,302	3,958
Beaverton	351	508
Beeton	137	224
Bradford	646	525
Brechin	65	85
Burk's Falls	153	298
Cannington	250	390
Chatsworth	142	175
Chesley	808	662
Coldwater	202	231
Collingwood	3,377	2,479
Cookstown	118	191
Creemore	189	277
Dundalk	333	335
Durham	567	699
Elmvale	309	306
Elmwood	119	122
Erin	150	297
Flesherton	139	202
Grand Valley	264	296
Gravenhurst	1,389	1,134
Hanover	2,127	1,281
Hepworth	58	105
Holstein	40	89
Huntsville	1,744	1,044
Kincardine	1,198	1,036
Kirkfield	39	76
Lucknow	428	447
Markdale	257	350
Meaford	1,267	1,200
Midland	4,515	2,338
Mildmay	208	297
Mount Forest	798	784
Neustadt	99	180
Orangeville	1,135	1,141
Owen Sound	7,985	5,268
Paisley	223	322
Parry Sound	521	1,653
Penetanguishene	1,451	1,180
Port Carling	138	369
Port Elgin	648	810
Port McNicoll	134	340
Port Perry	464	593
Priceville	19	63
Ripley	133	211
Rosseau	33	100
Shelburne	454	483
Southampton	673	841
Stayner	399	492
Sunderland	182	227
Tara	154	235
Teeswater	244	340
Thornbury	193	424
Thornton	43	89
Tottenham	181	251
Uxbridge	592	678
Victoria Harbour	111	372
Walkerton	1,519	1,064
Waubaushene	112	335
Wiarton	545	692
Windermere	34	101
Wingham	1,244	921
Woodville	105	169
EAST CENTRAL REGION (60-Cycle)		
Bancroft	64	418
Bath	71	111
Belleville	10,121	6,076
Bloomfield	167	266
Bobcaygeon	216	539
Bowmanville	3,739	1,816
Brighton	613	757
Cobourg	3,621	2,303
Colborne	326	446
Deseronto	361	567
Frankford	257	429
Hastings	184	383
Havelock	232	400
Kingston	19,915	11,277
Lakefield	808	581
Lindsay	4,534	3,177
Madoc	473	505
Marmora	199	355
Millbrook	178	287
Napanee	1,863	1,370
Newburgh	87	154
Newcastle	370	330
Norwood	298	353
Omemee	158	267
Orono	142	274
Oshawa	27,715	9,251
Peterboro	21,548	11,199
Picton	1,954	1,626
Port Hope	4,075	2,185
Stirling	452	440
Trenton	6,756	2,925
Tweed	520	539
Warkworth	131	211
Wellington	287	478
Whitby	2,139	1,602
EASTERN REGION (60-Cycle)		
Alexandria	540	732
Almonte	482	882
Apple Hill	46	106
Arnprior	1,948	1,313
Athens	183	299
Barry's Bay	83	289
Braeside	269	118
Brockville	7,933	4,005
Cardinal	460	516
Carleton Place	2,196	1,506
Chesterville	559	376
Cobden	237	302
Finch	133	176
Iroquois	386	418
Kemptville	729	568
Lanark	136	286
Lancaster	84	169
Martintown	57	101
Maxville	165	256
Merrickville	263	313
Morrisburg	586	704
Newboro	38	95
Ottawa	57,558	57,968
Perth	2,186	1,643
Prescott	1,445	1,112
Renfrew	1,337	2,138
Richmond	153	183
Russell	105	179
Smiths Falls	4,100	2,764
Westport	175	246
Williamsburg	115	133
Winchester	562	449
NORTHERN ONTARIO PROPERTIES		
NORTHEASTERN REGION (25 and 60-Cycle)		
Cache Bay	47	175
Capreol	704	626
Cobalt	681	972
Elk Lake Townsite	102	152
Englehart	490	516
Haileybury	840	696
Kearns Townsite	96	175
King Kirkland T'site.	51	93
Larder Lake Twp.	368	556
Latchford	38	126
Matachewan T'site.	211	357
Matheson	196	230
McGarry	443	353
New Liskeard	1,578	1,329
North Bay	6,367	5,214
Powassan	167	293
S. Porcupine T'site.	1,065	1,717
Sturgeon Falls	896	1,033
Sudbury	14,714	11,895
Teck Twp.	4,515	5,685
Thornloe	30	36
Timmins	7,281	9,050
NORTHWESTERN REGION (60-Cycle)		
Atikokan	733	589
Cottage Cove T'site.	119	178
Hudson Townsite	79	179
Red Lake Townsite	388	468
Sioux Lookout	643	773
THUNDER BAY SYSTEM (60-Cycle)		
Beardmore	197	277
Fort William	23,497	11,054
Geraldton	628	980
Nipigon Twp.	583	502
Port Arthur	27,452	9,630
Red Rock	333	218
Schreiber Township	346	475
Terrace Bay	687	275



HYDRO News



SUMMER PARADISE

VOL. 38 JULY-AUGUST, 1951 NUMBERS 7 & 8



HYDRO News



JULY-AUGUST, 1951

VOLUME 38 NUMBERS 7 & 8

Published by

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 University Avenue, Toronto

Gesture of Goodwill

AN American visitor recently observed that "Ontario grows more beautiful every year!"

This compliment — and similar tributes which have been voiced over a period of years — serves to remind us of the many and diversified gifts of nature with which this province is endowed. It is, perhaps, a human trait to overlook these beauties which abound in our midst and to look to "faraway fields."

A constant awareness of our great heritage should engender in each one of us a desire to complement and even enhance the natural scenic grandeur of this province.

There is every reason to believe that individual contributions in this direction are deeply appreciated by visitors as well as by fellow-Ontarians. The keen interest manifested by thousands of tourists in Hydro's floral clock at Queenston during the past 12 months, supports this view. Last summer, even before the clock had been finished, it was attracting thousands of visitors.

Now virtually complete, this unique and beautiful timepiece — reputed to be the largest clock of its kind in the world — is said to be rivalling in popularity the famed Niagara cataracts themselves. Colorful and radiant in its summer dress of some 24,000 plants, the clock is the result of many hours of ingenious planning and careful construction.

Located close to one of the main border points in Ontario, it "strikes" a pleasant note in the visitor's mind and assures him of the goodwill that follows him as he travels through our province.

THE COMMISSION

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COVER PHOTOS

OUR cover photos this month are dedicated to Ontario's great tourist industry and the many beautiful summer resorts that annually attract thousands of vacationists. Typical is the view of Bell Lake, near Sudbury, on the front cover which is reproduced through the courtesy of the Ontario Department of Lands and Forests. Equally beautiful is the back cover photo from the camera of Hydro Staff Photographer J. B. Helling, which depicts a peaceful scene on the Montreal River near the Commission's unique hydro-pneumatic plant.

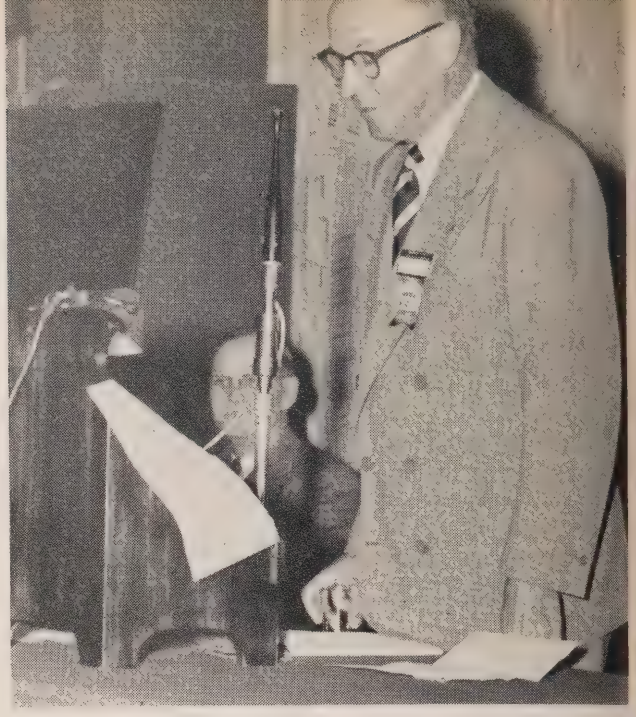
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Ontario Department of Travel and Publicity

"IN THE GOOD OLD SUMMERTIME" Fenelon Falls children can literally step out their front doors to indulge in one of their favorite pastimes. These adventurous youngsters are demonstrating the ideal way to spend a hot afternoon, if you, like they, are fortunate enough to be near water.

Delegates Represent 10 Nations



O. W. TITUS, Chairman of the Central Committee for the 1951 meeting welcomes delegates to Toronto. Attendance was near 2,000 mark.

REPRESENTING 10 nations, some 2,000 delegates attended the 67th Annual Summer General Meeting of the American Institute of Electrical Engineers held in Toronto recently. This was the first general meeting of the Institute held in Toronto in 10 years.

The delegates were officially welcomed by O. W. Titus, Chairman of the Central Committee for the 1951 meeting, who paid tribute to M. J. McHenry, Director of Consumer Service, Ontario Hydro, for his work as General Chairman at the 1941 meeting, and Chairman of the Finance Committee at this year's assembly.

In his address, Mr. Titus emphasized the international character of the gathering. This, he said, indicated that understanding and friendship between nations was best promoted by understanding and friendship between individuals of those nations.

Following this speech of welcome, Mr. Titus turned the meeting over to T. G. LeClair, A.I.E.E. President. H. H. Henline, A.I.E.E. Secretary, submitted the report of the Board of Directors, and W. I. Slichter presented his Treasurer's report. Mr. LeClair then introduced and presented the President's badge to incoming President F. O. McMillan.

Technical Sessions

Approximately 100 technical papers featured the five-day sessions of the Institute, of which 15 or more were presented by some 24 Ontario Hydro representatives. Hydro speakers included: K. H. Kidd, J. H. Waghorne, V. E. Ogorodnikov, A. W. W. Cameron, A. D. Hogg, E L. Hartman, W. W. Loucks, V. V. Mason, M. Kurtz and G. W. N. Fitzgerald, all of Hydro's Research Division; R. E. Jones, J. E. Sproule, W. A. R. LeMire, M. P. Osburn, G. E. Burridge, and A. S. G. Jong, Electrical Engineering Department; F. L. Code, P. L. Dandeno and C. K. Duff, System Planning; A. E. Aeberli and G. F. Simson, Generation Department; F. K. Dalton, Supply Inspection Department; Wills Maclachlan, Personnel, Head Office, and C. F. Book, District Electrical Engineer at Hydro's Niagara Region.

Subjects dealt with by the Ontario Hydro personnel included: Distribution, Generation, Transmission, Power Systems, Safety, Equipment, Instruments and Measurements.



T. G. LeCLAIR, right, outgoing President, congratulates F. O. McMillan after presentation of the incoming President's badge to the new chief A.I.E.E. officer.

Inspection Tours

Among the highlights of the meeting were the visits to several Hydro properties and projects.

The first day's agenda included inspection tours for three groups, who visited the Commission's Research Laboratory in Toronto; the A. W. Manby Transformer Station and Service Centre at Islington, and the Richard L. Hearn Generating Station project on the Toronto waterfront.

Featuring the program for the third of the daily sessions was an all-day tour of the Niagara area. Leaving Toronto early in the morning, the visitors first inspected the Twin Flight Locks at Thorold and later attended a luncheon

(Continued on page 22)





Tour Hydro's Research Laboratory

AN interesting feature of the A.I.E.E. Summer General Meeting was a series of conducted tours at Hydro's Research Laboratory in Toronto. Approximately 120 delegates visited the laboratory, where they witnessed several interesting phases of the Commission's research work. ABOVE LEFT—In the chemicals laboratory, Don Hubbs, extreme right, described some of the numerous experiments being conducted by that department. ABOVE RIGHT—Bill Parker, extreme left, showed samples of concrete being studied by the Structural Research Department. BELOW LEFT—Research Engineer Jack Leslie gave details on the operation and construction of the Bolometer which was developed under his guidance to detect overheated joints in transmission lines. BELOW RIGHT—Cliff Chapin also gave a practical demonstration with an ultrasonic tester of the method used to detect possible flaws in porcelain bushings.









ABOVE: A.I.E.E. Delegates inspect floral clock at the Sir Adam Beck No. 1 Generating Station at Queenston.

LEFT: Richard L. Hearn, the Commission's General Manager and Chief Engineer, has some "pointed" remarks on construction progress at the site of the new Sir Adam Beck No. 2 Station. Left to right—Mr. and Mrs. W. J. Gilson, Toronto; F. J. Stanger, Melbourne, Australia; Mr. Hearn; Mrs. Stanger and R. E. Abersinger, Boston.

BELOW: Delegates get some interesting facts in the control room at Sir Adam Beck No. 1 Generating Station.

Visit Niagara Area



"CHOPPER" CHANGERS

Ontario Hydro engineers invent new type of converter for use in frequency changeover program

by Frank Wood
PUBLIC RELATIONS DIVISION
(F.S.D.)

ONTARIO Hydro engineers have invented a new type of "chopper".

Although it won't chop wood, this comparatively small piece of equipment is playing a very important role in the Commission's Frequency Standardization program.

Officially known as the "500-watt Chopper Type Frequency Changer", it is being used primarily to convert 60-cycle power to 25 cycles. But, if necessary, it also will convert from 25 to 60 cycles and change direct current to the alternating type—or vice versa. The new type changer will perform all these varied operations by merely touching a toggle switch.

Rural and Urban Homes

Frequency standardization technicians are using the "choppers" almost exclusively in rural and urban private homes, as well as a few commercial establishments, particularly in connection with the changeover of electrically-operated oil burners and refrigerators. In many instances it is not practical to alter these types of equipment at the same time that other frequency-sensitive equipment is changed over for operation at 60 cycles.

Thus, it is necessary to install the chopper frequency changers temporarily to convert the 60-cycle power to the lower frequency until the customer's oil-burning or refrigeration equipment has been altered.

Weighing only 80 pounds, this new type of changer is easy to handle. Two men, it has been found, can install eight sets in one day. On the other hand, a motor generator frequency changer set can effect only one type of power conversion and weighs approximately 250 pounds. Past experience has indicated that a crew of four can install only four of these larger sets a day.



CHOPPER FREQUENCY changers are compact, weighing only 80 lbs. Development work was carried out by M. D. Berry, left, and Harold A. Smith, centre, F.S.D. Engineering Department. Sets were produced under Gordon N. Cripps, right, Engineering Department's Service Engineer.

The development work on the "chopper" was carried out by the Engineering Department of Hydro's Frequency Standardization Division under Harold A. Smith and M. D. Berry.

The sets were produced at F.S.D.'s Service Shop at the A. W. Manby Transformer Station and Service Centre under the direction of Gordon N. Cripps, the Engineering Department's Service Engineer.

First shipped for use in the field in 1950, approximately 360 of these chopper sets are now in operation and have, in numerous instances, facilitated, to a great extent, changeover of customers' equipment, prior to, and after the actual "cutover" day.

Power Demands Remain High

POWER demands in Southern Ontario were maintained at a high level for the week ended July 22, 1951, with average week-day primary demands 13 percent higher than the corresponding week last year.

Primary energy demands continued their seasonal decline, but week day averages exceeded those of the same period last year by 14.1 percent.

Consumption of energy in the Southern Ontario System exceeded the week ended July 23, 1950, by 25.2 percent.

On July 19, a 15,000-kilowatt generator was placed in service at Ontario Hydro's Chenaux Generating Station on the Ottawa River. The seventh of eight proposed units, it will supply power to the Southern Ontario System.



STATUE OF Queenston hero Sir Isaac Brock, in whose honor the town was named, stands in the court house square at Brockville.

BROCKVILLE

"City of the Thousand Islands"

ON a cold day in January, 1859, a wood-burning locomotive and two miniature coaches left Brockville for Perth on a trial run over a new railway line between these two towns.

The citizens of Brockville were keenly interested in the outcome for many of their number had urged the building of the new track. Seven years before, in 1852, Brockville's town council had pledged its support of the movement to construct this rail connection between the St. Lawrence and Ottawa Rivers. The astute town fathers had their eyes fixed on the day when Toronto and Montreal would be linked by steel. The Brockville-Perth project, they felt, would be a valuable feeder to the proposed main route between Toronto and Montreal as well as aiding expansion in the area between the two rivers.

The first trip over the new line was an eventful as well as an epochal journey for the pioneer passengers and crew. Old documents record that "nine and three-quarter hours elapsed before Perth, scarcely 40 miles distant, was reached. The temperature was reported to have been 40 below zero on the day of the trial run; the wheels slipped; the couplings broke; and, the passengers finally reached their destination with a rope linking their coach and the locomotive."

First Railway Tunnel

On the first leg of this perilous journey, the brave little caravan passed through a tunnel—one-third of a mile in length—right under the Town of



THIS AERIAL VIEW indicates Brockville's close association with the history of the mighty St. Lawrence.



COURT HOUSE SQUARE offers an excellent view of one of the town's main thoroughfares where modern stores serve the growing population.

Brockville itself! Thus, Brockville today claims to be the site of the first railway tunnel in Canada—the only tunnel in the world with doors on each end.

Often called "The City of the Thousand Islands" because of its proximity to the far-famed St. Lawrence River archipelago, Brockville, offers many advantages to the manufacturer and tourist alike.

Named after the renowned hero of Queenston Heights, Sir Isaac Brock, the town is situated on the north shore of the St. Lawrence, approximately 200 miles east of Toronto and 125 miles west of Montreal. The closest point on the Canadian border to New York City, and within easy reach—via the Thousand Islands Bridge—of some of the most populous parts of the United States, it is served by the C.P.R. and C.N.R. railways. In addition, No. 2 Highway—Ontario's principal highway link between Toronto and Montreal passes through the municipality.

Historical Background

Originally settled by United Empire Loyalists in 1783, the town and surrounding area have an intimate association with Canadian history. The last stand by the French regime in Canada was fought only a short distance from Brockville. Later it witnessed, and was then embroiled in the war of 1812-1814.

Then came the construction of the Rideau Canal. Building of this "military highway" was undertaken to provide an alternative route for men and supplies should the St. Lawrence River—at that time, the only link between east and west—be placed under blockade in the event of further friction between Canada and her now-friendly neighbor to the south.

But that friction never developed. Brockville has enjoyed a century and more of unbroken, peaceful progress.

"Double" Incorporation

Incorporated as a police village in the year 1832, and as a town in 1849 when the Baldwin Act, which permitted towns in "Upper Canada" to establish municipal corporations, was passed, Brockville has shown constant foresight in maintaining and improving its scenic attractions. Today, 29 islands in the St. Lawrence River, owned by the municipality, are available to all for fishing and camping—without charge. In addition, St. Lawrence Park, which lies within the town limits, is one of the most pictur

(Continued on page 10)

by
Ian L. Thomson
Hydro News



KEEPING PACE with expansion in the municipality, Brockville is proud of this new wing at its Hospital.



THIS RAILWAY lin
es through a tunne
third of a mile



ONE OF the largest power customers, the Brockville branch of Phillips Electrical Works, is ideally situated within the city limits.



IN A PICTURESQUE setting off the main thoroughfare, the Leeds and Grenville County Courthouse is just one of the many fine public buildings to be found in Brockville, which is the main business centre for these counties.





yeneath the town hall where offices of the Brockville Public Utilities
i on are located. It is the first railway tunnel ever built in Canada,
s puted to be the only one in the world with doors at each end.



BROCKVILLE'S EDUCATIONAL institutions are second to none as this view of the collegiate institute indicates. Excellent artificial lighting facilities are an important feature of this modern school.



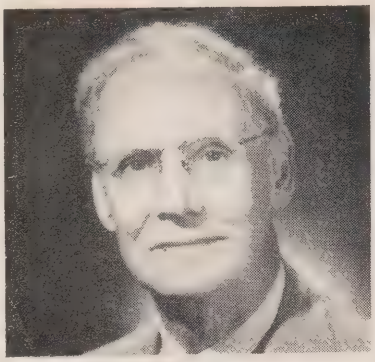
RA ELECTRICALLY-OPERATED machines at the plant of the Stetson Co pany make this firm another of the large power users in the rn Intario town. The cylinders are used in the initial "furring" process.

AL F the many new homes being built in the St. Lawrence town, these attrac- degned residences are part of a modern housing development at Brockville.





SITUATED ON the St. Lawrence River, St. Lawrence Park attracts thousands of tourists each year. Owned and operated by the Municipal Corporation it is regarded as one of the most picturesque in Canada.

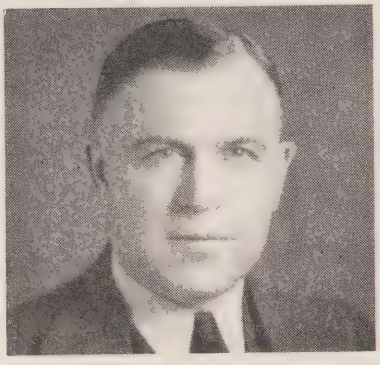


T. R. ELAND

THOMAS R. ELAND

Born in Belfast, Ireland, Mr. Eland is serving his second term as Chairman of Brockville Public Utilities Commission, having been elected to the Commission two and one-half years ago. A retired businessman, he is married and has two sons. He states that his hobbies include gardening and fishing.

•



K. W. ROODE

KENNETH W. ROODE

Born and educated at Brinston, Ontario, Mr. Roode has been associated with the Brockville P.U.C. since 1941. He is the proprietor of an auto sales and service garage. A member of the Brockville Rotary Club, he takes an active interest in various youth organizations, including the work of the Ontario Society for Crippled Children. A veteran of World War I, Mr. Roode states that his hobbies are curling and golf.

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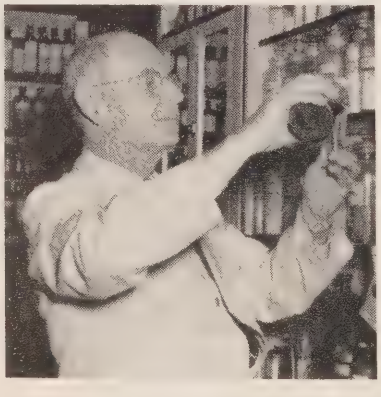


N. S. CUTHBERTSON

NEWTON S. CUTHBERTSON

A native of Hamilton, Commissioner Cuthbertson served ten years as a city alderman and three years as Mayor of Brockville. He is engaged in the real estate and insurance business. A married man, he is a member of the Kiwanis Club, an Oddfellow, and a member of the Loyal Orange Lodge.

•



F. C. CURRY

FREDERICK C. CURRY

Commissioner Curry was born at Minden. A member of the local commission for the past two years, he was previously a city councillor and a member of the local board of health. Educated at Brockville and the Ontario College of Pharmacy, Toronto, Mr. Curry is engaged in the retail drug business. He served with the military forces during both World Wars. Included in his list of hobbies is photography and canoeing, as well as a special interest in local history.

esque parks in Canada, attracting many thousands of tourists each year.

Through the years, this municipality has placed great emphasis on the numerous attractions offered to enthusiasts of the rod and reel. The river and adjacent lakes abound with plump bass, pike and 'lunge. For those more intent on sightseeing, fleets of boats operate during the summer between Brockville and nearby areas which are almost breath-taking in their beauty.

Excellent Facilities

Bordering the town's tree-shaded streets are bustling factories, modern public and commercial buildings and well-kept residences, all enjoying an abundant supply of power, light and water.

Providing these important services, the Brockville Public Utilities Commission is keeping pace with the progress of the municipality it serves, as well as laying careful plans for future expansion.

Among the leading industries of the city served by the local commission are the Phillips Electric Company; Lion Grinding Company; General Milk Company; Stetson Hat Company; Libby, McNeil and Libby; Brockville Fire Extinguisher Company and Canadian Foundry and Forgings.

Established in 1900

When the Brockville commission came into being in 1900, the total load was approximately 501 kilowatts. Today, the load has grown to 3,933 kw., and the local utility now serves 3,412 domestic, 505 commercial, 88 power and 50 cottage customers. The Brockville system owns and operates approximately 29 miles of distribution line and two main substations.

A brief comparison of power consumption statistics for the past decade provides an arresting picture of Brockville's phenomenal growth during this period. At the beginning of 1941, the town's 73 power customers had an average monthly power consumption of 6,034 kilowatthours at a cost of .810 cents per kilowatthour. Today, the average monthly consumption of its 88 industrial customers is 15,555 kilowatthours, at an average cost of .921 cents.

Domestic customers in 1941 totalled 2,921, with a monthly average consumption of 139 kilowatthours, at a cost of 1.129 cents per kilowatthour. Domestic customers, at the beginning of the present year, totalled 3,412 and had an average monthly consumption of 293



MAIN OFFICE at Brockville Public Utilities Commission. Included in this picture are—Dorothy Hay; Leona Lawson; Margaret McGrory; Floyd McRae (Secretary-Treasurer of the Commission); and June Hill. The commission serves 3,412 domestic, 505 commercial, 88 power, 50 cottage customers.

kilowatthours, at an average cost of .947 cents per kilowatthour.

The same parallel exists in respect ro commercial customer figures. Over the same period, average monthly consumption has increased from 441 to 667 kilowatthours, with the cost decreasing from 1.176 cents to 1.134 cents per kilowatthour.

Growing and benefitting from the town's commercial and industrial prosperity, Brockville P.U.C. is thus in a very strong financial position. Free of debt, with the last payment on debentures having been made in 1933, the present local assets of the commission stand at an all-time high of $639,574, with liabilities amounting to only $18,947. In 1940 the assets of the Brockville commission totalled $473,396 with liabilities of $11,369.

The present commission is administered by: T. R. Eland, Chairman; K. W. Roode, Vice-Chairman: Commissioners F. C. Curry, N. S. Cuthbertson and W. F. Reynolds (Mayor of Brockville), Manager A. L. Farquharson, and F. A. McRae, Secretary-Treasurer.

While recalling with pride their honorable history, Brockville citizens face with confidence a future brightened by the prospect of further achievement and steady progress.

ALEXANDER L. FARQUHARSON

Manager of Brockville Public Utilities Commission, Mr. Farquharson was born and educated in Edinburgh, Scotland. He has been Manager of the local commission since 1923. He was Manager at Dundas from 1904 to 1908, and Manager of the Electrical, Telephone and Street Railway departments at Fort William from 1908 to 1923. A married man, with two sons and one daughter, he is a high-ranking Mason and is also a member of the Kiwanis Club.



A. L. FARQUHARSON

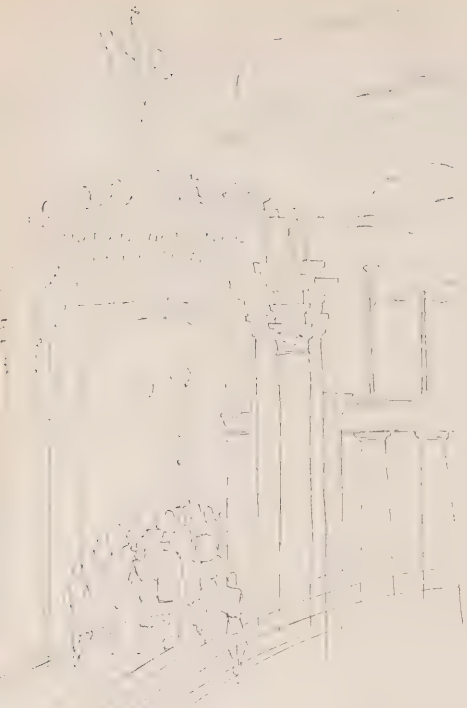
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MAYOR W. FRED REYNOLDS

Born and educated in Brockville, Mayor Reynolds has been a member of the local P.U.C. for five years. He was a town councillor in 1945 and 1946, and was elected Mayor in 1947. Married, Mayor Reynolds is a member of the Executive Committee—Ontario Mayors and Reeves Association. He is also Eastern Ontario Regional Director of the Canadian Federation of Mayors and Municipalities.



W. F. REYNOLDS



Presenting

AMONG the many internationally-renowned visitors to Toronto's 1951 Canadian National Exhibition, August 24 to September 8, will be General George C. Marshall, U.S. Secretary of Defence. General Marshall will be the chief figure at the official opening ceremonies this year.

With the curtain scheduled to go up in a few weeks, the tempo of activity, in and around the spacious Exhibition buildings, is mounting daily as crews of skilled tradesmen and workmen hasten work on this year's exhibits as well as numerous last-minute improvements.

Space in three buildings has been allocated to Ontario Hydro for its exhibits. The main booth, which has undergone extensive alterations, will, as in former years, be located in the Electrical Building. This exhibit will feature an animated replica of Canada's famous Horseshoe cataract at Niagara Falls. Approximately 1,000 gallons of water a minute pouring over the crest of the miniature falls; a duplication of the nightly illumination of the actual falls, and a simulated rainbow, will enhance the realism of this cleverly-designed display which is approximately 10 ft. high and 25 ft. wide.

New Development Model

The Commission's plan to re-develop the resources of the Niagara River, on



C.N.E. 1951



GENERAL GEORGE C. MARSHALL

which work is now underway, will be embodied in a model of the Sir Adam Beck-Niagara Generating Station No. 2 Development, which will also be on exhibit in the Electrical Building booth. This colorful model will dramatize many of the physical features of the great project.

In view of the keen interest in the proposed St. Lawrence Seaway and Power Project, Hydro has made arrangements, also, to place a factual model of this development—47½ feet long and approximately 15 feet wide at its widest point—on display in the Governments Building near the Dufferin Gate. This model, complete with moving accessories, graphically indicates the topographical changes that would be effected by the development and the benefits to all Canadians inherent in this extensive project.

Directing attention to the main Hydro exhibits mentioned above, will be another smaller booth located in the Ontario Government Building.

Attendants will be on duty during the Exhibition, in both the Electrical and Governments Buildings booths, to explain and answer questions on the exhibits which are in keeping with the general theme of "Your Hydro On Parade."

This theme will be further amplified by frequency standardization and other animated displays, color photos, maps, and pamphlets, in providing a complete summary of the progress of Hydro's expansion program.

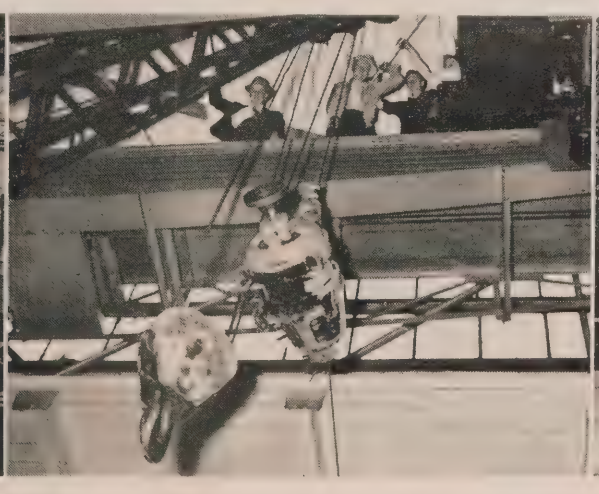
Frequency Standardization

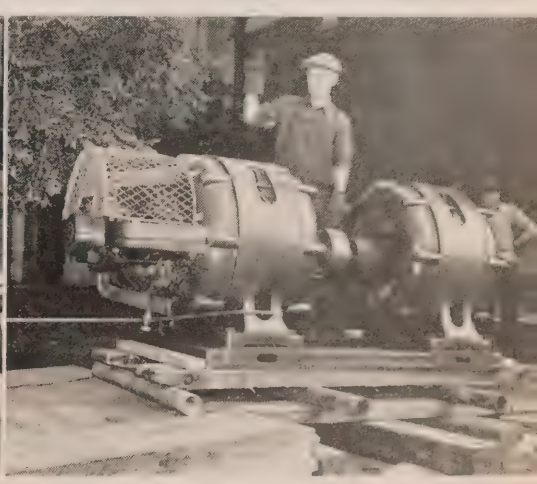
Speaking of Hydro, it is interesting to note that this is the first year in the Exhibition's 72-year history it has made extensive use of 60-cycle power. Through the co-operative efforts of Ontario Hydro, the Toronto Hydro-Electric System, and the Canadian National Exhibition Association, 60-cycle power is now being delivered to the C.N.E. through mobile facilities recently placed in service at the Strachan Avenue Transformer Station, north of the Princes' Gates.

During the past few weeks, the Exhibition's electrical staff has been busy with the job of altering some 700 pieces of frequency-sensitive equipment. This means that equipment in the eastern section of the C.N.E. grounds, including most of the colorful Midway, and such buildings as the Coliseum, the Electrical and Automotive Buildings, the Horse Palace, and the Women's World Building, will be operating on 60-cycle power this year.

Many lighting innovations are in store for 1951 C.N.E. patrons. It is planned to introduce neon and sodium vapor floodlights similar to the type being used to illuminate certain streets in London during the Festival of Britain.







ELECTRICITY plays an important part at the "EX" as the photo on the opposite page graphically illustrates. This year, several buildings in the eastern section of the C.N.E. grounds will be using 60-cycle power which is being supplied through mobile substations (above, left), installed at Strachan Avenue T.S., north of the Princes' Gates. In the centre photo, members of the Exhibition's electrical staff install a 60-cycle motor in the overhead crane located in the Electrical Building. On the right, another crew member superintends removal of changer set.

HYDRO HOME FORUM



by
Edithemma Dighton
Home Economist



This is a revival season for salads. Tossed greens made one man a fortune, as well as famous. We refer to a Frenchman, Monsieur d'Albignac, who escaped from Paris during the French revolution and arrived penniless in London, England. He made his reputation and his fortune by mixing salads for parties given by hostesses in Britain. A housewife may not make her fortune out of salads but she can make herself well-known for her original and tasty dishes if she follows a few general rules and uses her ingenuity.

* * *

A few rules and creative ideas for the "health" course of the menu are: Serve salads often; have ingredients in pieces that can be handled with a fork; make certain partly-cooked salads are crisp; avoid watery salads by draining washed greens; add color and arrangement without being elaborate; combine salads by tossing lightly with two forks, do not stir; have all ingredients cool and crunchy.

* * *

Try these additions to any type of salad dressing: tomato catsup, dash of curry powder, a few drops of Worcestershire sauce, a trace of garlic, a pinch of herbs or minced onion.

* * *

During the berry and fresh fruit season, a jar of simple syrup is a refrigerator asset. Fill a jar one-third full of granulated sugar, add boiling water slowly to fill, cover and allow it to stand 24 hours before storing.

* * *

What do you do when you have half a box of berries left over? For a quick dessert, beat the white of an egg until stiff in the electric mixer, add ½ cup powdered sugar, and the crushed berries. Continue beating for 10 minutes then fold in 1 can of unsweetened applesauce, pile into sherbet glasses, and chill.

For a quick rice pudding, prepare 1 package of vanilla pudding mix. Cook separately ½ small box of quick cooking rice. Pour the pudding over the rice, add a handful of raisins, and there you have dessert.

* * *

Potato salad is apt to become very soft at this time of year. No need to worry though when a cup of grated crisp green cabbage is sprinkled with French dressing, then gently mixed with the diced potatoes which are coated with boiled dressing.

* * *

A clam chowder is the answer to using up leftover scalloped potatoes. Mash or chop the potato mixture into fine particles, heat with a tin of double-diluted condensed clam chowder.

* * *

The French toast method of dressing up sandwiches pays dividends in flavor. Tuna or salmon sandwiches dipped in beaten egg and milk and carefully fried, are particularly good. No need to waste left-over sandwiches from the lunch box or picnic basket if you keep this recipe in mind!

* * *

Ah! a safe way to press plastic. To smooth the wrinkles in a plastic tablecloth or other plastic materials, press the ironing board with a hot iron. Then place the plastic fabric over the board and press with your hands.

* * *

The bottom rings of kitchen canisters and bathroom powder cans leave a rust mark on counter surfaces that is almost impossible to remove. However, we have used a coating of fingernail polish or clear lacquer along the rims and it has eliminated further marks.

* * *

Perhaps you usually dribble melted butter or bacon fat over boiled new potatoes. We suggest you mix a few drops of lemon juice into the melted butter as the tartness complements the "waxiness" of new potatoes. Then sprinkle with a tablespoon of minced parsley or nasturtium leaves.

* * *

A memo: Serve a blueberry shortcake made with hot sweetened biscuits, split and buttered, topped with hot cooked, well-spiced and slightly-thickened blueberries and covered with cold whipped cream.

* * *

Cottage cheese can add a subtle flavor to mixed dishes. However, if you add cottage cheese to a hot mixture, use low heat. Too much heat will toughen the cheese protein and make it "weep".

* * *

Zestful supper dish: Brown pork chops quickly in skillet. Arrange in a single layer in a casserole. Add canned apple juice to barely cover. Toss in 1 or 2 cloves for each chop. Bake, uncovered, at 325 degrees for 1 hour.

SEAFOAM TEA COOKIES

2 egg whites
1 cup dark brown sugar, firmly packed
½ tsp. vanilla
¼ cup raisins, chopped coarsely
1 cup moist, shredded coconut
¼ cup crushed cornflakes

Beat egg whites until foamy. Add sugar, one tablespoon at a time, beating constantly. Beat in vanilla. Fold in remaining ingredients. Drop by spoonfuls onto well greased cookie sheet. Bake in a moderate electric oven (350 degrees) 15 to 20 minutes or until cookies are lightly browned. Remove immediately from cookie tray. Make 2½ dozen.

TESTING TIME

by Allan Jones

PUBLIC RELATIONS DIVISION
(F.S.D.)

IN common with thousands of Ontario students, some 1,800 men connected with Hydro's Frequency Standardization program have been trying examinations in the past few months.

These men are the drivers of the 1,400 or more vehicles used by both Hydro and its contractor, the Canadian Comstock Company, in connection with the $200,000,000 standardization project in the 25-cycle "island" of Southern Ontario.

Overall Plan

The tests are part of an overall plan to promote safe and efficient driving on the part of all Commission employees and employees of associated firms. But, it is felt that these examinations have special significance in the changeover program, which is essentially mobile in character. If proof were needed, examine the record of 9,700,000 or more miles which Hydro and Comstock standardization drivers have established to date!

In charge of the tests, being conducted jointly by Hydro and the Comstock Company is Transport Supervisor E. F. G. Bird of the Frequency Standardization Division. A Canadian war veteran, who served with the British Army's Royal Tank Corps for 23 years, Bird is also an associate member of the British Institute of Mechanical Engineers. Working with him are Instructors W. C. Vance and Harry McLaren, who are responsible for the testing of Hydro personnel. C. O. Davison, A. B. Marshall and H. Nesseth are conducting the tests of Comstock drivers under the direction of Walter Moyer, the firm's Transportation Superintendent.

Three Tests

The tests are carried out in three distinct phases. Each driver must first pass a medical examination.

Then he tries a road test, involving more than 118 different checks. The type of road test which each driver is required to pass, is dependent, to some extent, on the type of vehicle which he operates as part of his normal duties.

Actually, there are approximately 13 different types of vehicles being used in the changeover program, including World War Two's "jack of all trades", the jeep. Six half-tracks, veterans of the last war as well, are rendering yeoman service, particularly in the muddy areas where ordinary trucks could bog down.



HYDRO DRIVER David Allan takes an "accelerator-to-brake" reaction test under the watchful eye of Instructor Bill Vance. Equipment for test is carried in two large mobile trailer vans.

Tractor-Trailers

Special skill and experience are necessary in handling the 14-ton tractor-trailers which haul the vast quantities of material and equipment from the stores depot at the A. W. Manby Transformer Station and Service Centre at Islington to the "cutover" areas. These leviathans of the road are equipped with 15 forward gears and three "reverses", while their length and height present intricate problems in parking and manoeuvring. Thus, a tractor-trailer operator is given a more detailed test than the drivers of cars or small trucks.

Checks common to road tests for drivers of all types of vehicles are those given to determine knowledge of proper signalling and general traffic rules. In addition, there are five other general checks, the chief one stressing the driver's powers of concentration while at the wheel.

"Psycho-Physical" Test

The third and final examination is the "psycho-physical" test to show each driver's "accelerator-to-brake" reaction time; day and night vision; depth and angle perception, and general steadiness.

The equipment for this test has been set up in two large mobile trailers, one being operated by Hydro instructors, and



"MUTT AND JEFF" of the changeover program's mobile equipment are the jeep and the 14-ton tractor trailer above.



the other by the Comstock test group. These trailers are now visiting each area, where frequency standardization is underway, thus saving considerable time and expense involved in bringing drivers from the field to a central testing point.

Reaction Test

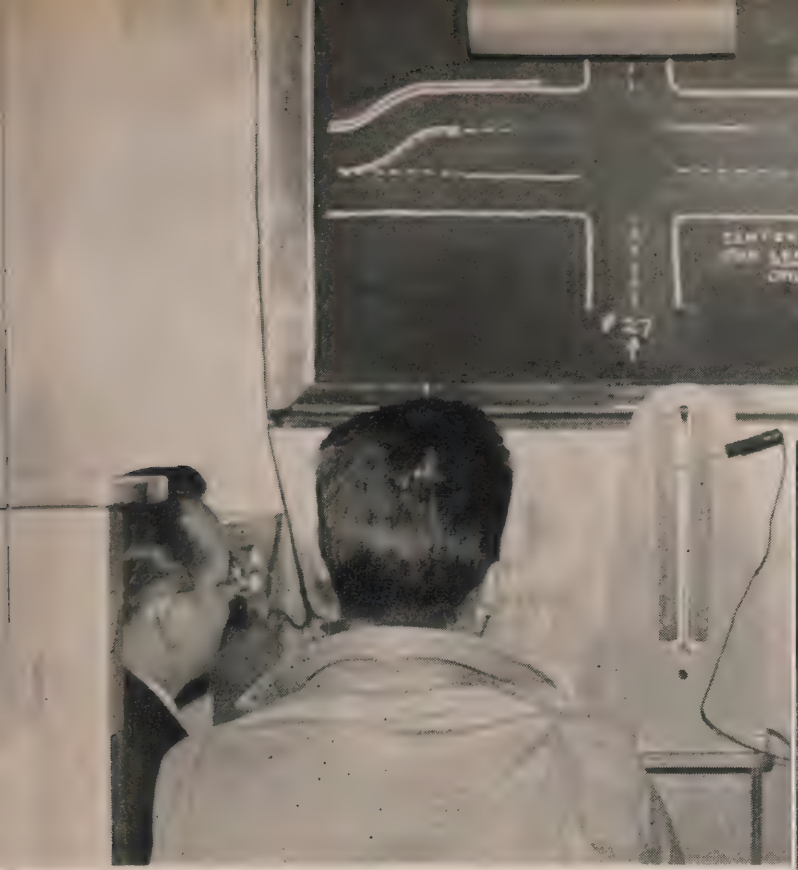
Perhaps the most important aspect of the "psycho-physical" test is the reaction check which shows the driver the length of time it takes to transfer his foot from accelerator to brake, a critical time-lapse in a situation where instantaneous reaction might avoid an accident. The average time recorded so far on the test machine is from ½ to ⅔ of a second, during which, at 30 mph, a car would have travelled anywhere from 22 to 30 feet. To this must be added actual braking distance, which is approximately another 43 feet, even under ideal conditions.

Instructors report that the calibre of drivers tested to date has been very high. Since the examinations were first inaugurated, the two groups have maintained a combined daily average of 16 tests. By the end of June, a total of 785 drivers, representing both organizations, had been passed for certification.

In the gleaming, well-lighted test trail-

(Continued on page 22)

THIS SMILING FOURSOME represents a total of 81 years' driving experience and a record of over 4,000,000 miles without accident. They are Hydro drivers Jimmy Differ, Denver Dawson, William Exton and Bill Bayes (inset).





EACH TEST is concluded with a "chalk talk". In the photo above, F.S.D. Transport Supervisor E. F. G. Bird is giving two drivers several pointers on driving. Changing gears on a turn is a common fault, Instructor Bill Vance tells David Allan, right, who has just finished the rigid test.

STANDING at the entrance to Hydro's Safety Driving Instruction Trailer are, left to right: Comstock Supervisor Walter Moyer with Instructors Harry McLaren and Bill Vance. Supervisor Bird is shown in the doorway of the trailer where drivers are tested for physical and mental alertness.





PREMIER LESLIE M. FROST

IMPORTANT ANNOUNCEMENT

Premier Frost Names New Hydro Advisory Council

Nine-Member Group Will Advise Commission On Problems Relating to Province's Welfare

APPOINTMENT of a nine-member Ontario Hydro-Electric Advisory Council, giving consumers a more intimate voice in the affairs of their publicly-owned Hydro system, was announced recently by Premier Leslie M. Frost. Representing a cross section of Ontario's life and industry, the new board comprises members of the municipal systems, business and manufacturing interests, labor, agriculture, the home and the press, who will advise The Hydro-Electric Power Commission on problems related to the general welfare of the province.

"The magnitude of Hydro's operations and its influence on the daily life of Ontario's people," Mr. Frost stated, "make it imperative that the Commission should have the benefit of all viewpoints. It was felt that the five-man council originally recommended was inadequate to embrace the diversified activities served by Hydro; therefore, the legislation was amended to enlarge the membership of the group and extend representation to all walks of life. The fact that five of the nine members are identified with the municipal Hydro systems is recognition of the co-operative character of the publicly-owned enterprise."

Two-Year Term

Specifically, the Council will deal with any matters referred to it by the Ontario Hydro Commission and will place before Hydro any information deemed of significant value to the operation of the Commission's far-flung interests. Under terms of the new legislation, Council members will hold office for two years from the date of their appointment or for such other period as prescribed by the Lieutenant-Governor in Council. Members will elect one of their number as presiding officer.

"Selection of the Council was made with a view to creating an able and experienced group of officials," the Premier added. "Those serving in this responsible capacity will be called on to advise on problems affecting a billion-dollar public utility serving some 1,200,000 consumers across the Province. It was essential that the individual members be of the highest calibre and thoroughly acquainted with the problems of their respective fields of activity. I am confident that the Hydro Commission will find their contribution of inestimable value. The Commission, in turn, has on many occasions expressed its keen desire to have such an advisory board available."

Council Members

Appointments to the council effective immediately, are as follows:

D. P. Cliff, Dundas, a manufacturer and a life-long resident of his community, former Warden of Wentworth County, Past-President of the Dundas Historical Society and an executive member of the Wentworth Children's Aid Society. Mr. Cliff is President of the Ontario Municipal Electric Association and former Mayor of Dundas.

M. W. Rogers, Carleton Place, a prominent engineer and Manager of the local public utilities commission, a member of the local parks Commission, Past-President of the local planning board and President of the Association of Municipal Electrical Utilities.

C. H. Moors, Fort William, former member of the local city council and board of education, and the Chairman of the Fort William Hydro-Electric Commission.

J. Clark Keith, Windsor, General Manager of the Windsor Utilities Commission and a prominent civic leader. Mr. Keith formerly served as chief engineer of the Essex Border Utilities Commission, City Comptroller, and business administrator of the Windsor Metropolitan General Hospital. He is Past President of the Ontario Hospital Association, the Canadian Section of the American Waterworks Association, and the Association of Municipal Electrical Utilities.

J. P. Maher, Toronto, manufacturer and former Director of the Advisory Committee of the Wartime Prices and Trade Board. Mr. Maher is a director of the National Sanitorium Association and of the Canadian Council of Distributors. He is also actively identified with the Board of Trade and the Property Owners' Association.

A. F. MacArthur, Toronto, International Representative of the Teamsters' Union and President of the Ontario Provincial Federation of Labor—Trades and Labor Congress, A.F. of L.

Mr. Gratton O'Leary, Ottawa, outstanding journalist, Vice-President and Associate Editor of the Ottawa Journal.

Mrs. Marjorie Hamilton, Mayor of Barrie, and a member of the Ontario Municipal Electric Association. Active in women's activities, Mrs. Hamilton is a former civic alderman, Past President of the Ladies' Auxiliary of the Barrie Lions' Club, a member of the Barrie Navy League and of the Barrie Hospital Board.

John C. Brodrick, St. Catharines, fruit grower and President of the Ontario Federation of Agriculture. Mr. Brodrick is an executive member of the Niagara Branch, Agriculture Institute of Canada, and Provincial Director of the Ontario Fruit and Vegetable Growers' Association.

"We are very fortunate indeed in obtaining the services and advice of these leading citizens," the Premier observed. "Their sound judgment and spirit of co-operation will undoubtedly play an influential part in shaping the future of our truly democratic Hydro organization."



D. P. CLIFF
President, O.M.E.A.



M. W. ROGERS
President, A.M.E.U.



C. H. MOORS
Chairman,
Fort William Hydro-Electric Commission



J. CLARK KEITH
General Manager,
Windsor Utilities Commission



J. P. MAHER
Toronto



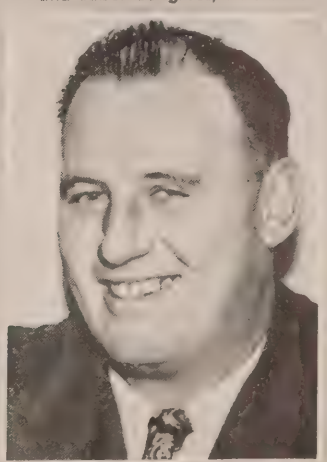
A. F. MacARTHUR
President, Ontario Provincial Federation of Labor—Trades and Labor Congress, A.F. of L.



GRATTON O'LEARY
Vice-President and Associate Editor,
Ottawa Journal



MRS. MARJORIE HAMILTON
Mayor of Barrie



JOHN C. BRODRICK
President,
Ontario Federation of Agriculture



1,000 New Customers Will Receive Power

APPROXIMATELY 300 miles of new rural Hydro line will be built by the Commission in North Bay Area, Northeastern Region during the next few months, depending upon the availability of materials. Regarded as the largest rural construction program undertaken by Ontario Hydro in the district, the project is designed to bring service to more than 1,000 new rural customers, principally farmers. Several tourist camps will also receive service.

The new lines are being built to serve customers in the vicinity of such communities as Ferris, Eau Claire, Widdifield, Bonfield, Rutherglen, Golden Valley, Restoule, Loring, Himsworth, South River, Verner, River Valley, Field, Sturgeon Falls, Warren, St. Charles and Noelville.



Toronto Hydro Appointments

THREE additional appointments have been announced by Toronto Hydro in connection with the recent re-organization of its administrative staff. Pictured above are, left to right, R. Ross Logan, A. G. Evans and Andrew Summers. Mr. Logan is the new Chief Accountant for the local system. He was previously associated with the City of Toronto. Mr. Evans has been promoted to Manager of Commercial and Residence Service Department from the position of Assistant to the Manager of the Light Department. Mr. Summers is the new Manager of the Service Order Department. He was previously a Section Supervisor—Light Department.

New Cobourg Commissioner



PERCY G. THOMPSON, 57 has been appointed a member of Cobourg Hydro Commission succeeding the late J. J. P. Delanty, who died a few weeks ago.

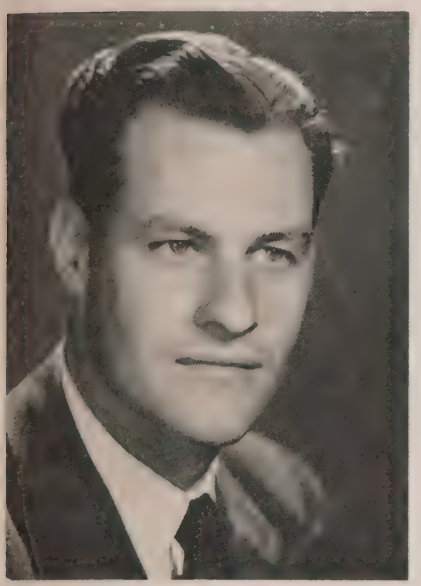
Mr. Thompson, an electrical contractor, was born and educated in Cobourg. As a young man he was the first operator at Cobourg substation when Seymour Power Company supplied power to that area.

An enthusiastic fisherman, he is also Past President of Cobourg Kinsmen and Past Treasurer of the Association of Kinsmen Clubs of Canada. Mr. Thompson is married with four children—two boys and two girls.

Mr. Delanty's death at the age of 61 ended a noteworthy career of public service. He first served as Commissioner while Mayor of Cobourg, 1933-36, and from 1937 to 1948 alternated as Chairman and Commissioner.

Born and raised in Cobourg, Mr. Delanty was an active curler until shortly before his death, and took much interest in gardening.

Awarded Ph. D.



DR. H. M. ELLIS

H. M. ELLIS, a member of the staff of Hydro's Research Division, has been awarded the degree of Doctor of Philosophy by the California Institute of Technology.

Born in British Columbia, Dr. Ellis graduated from the University of British Columbia and worked for some years with Canadian General Electric and Thunder Bay Paper Companies.

During his three-year postgraduate studies in California he worked under Dr. G. D. McCann on the dielectric recovery characteristics of power arcs in large air gaps. This project was reported to the American Institute of Electrical Engineers in New York last year.

Dr. Ellis is now engaged in research connected with the protection of power systems from lightning.



Reprinted from Cosmopolitan

Windsor Increases

INDUSTRIAL and domestic power consumption in Windsor, for the first quarter this year, showed a combined increase of 19 percent over the same period of 1950, according to a recent report of the Windsor Public Utilities Commission. Revenues increased by approximately 10 percent.

Commercial customers used 13,129,639 kilowatthours in the first three months of 1951, in comparison with 10,611,833 kwhrs during the corresponding period last year. This represents an increase of 23.7 percent.

Domestic consumption increased 6.7 percent over the corresponding period of 1950: 29,763,600 kwhrs, compared with 27,887,861 kwhrs last year.

FIVE-DAY WEEK

Sarnia Hydro-Electric Commission has joined the swing to the five-day week. Both salesroom and office are now closed on Saturdays.

Commission Chairman John T. Barnes recently explained that introduction of the five-day week was in accordance with modern office practise and would, it was felt, result in increased efficiency.

O.M.E.A. Meetings

Several District O.M.E.A. groups have announced that they will hold meetings early in September. Members of Georgian Bay District (District 2) will gather for a one-day session of Kincardine on September 7. The annual meeting of the Eastern Ontario O.M.E.A. (District 1) will be held at Presqu'ile Point September 12—13; the Thunder Bay District (District 3) members will hold their annual meeting at Sioux Lookout on September 17—18, while District 6 members will meet at Listowel on September 26.

UNDERGROUND WIRING

Ottawa is considering plans to extend the existing underground system to include all wiring in downtown streets.

The city, Ottawa Hydro-Electric Commission, and the Federal District Commission are expected to contribute to the cost of the long-term project. Downtown streets will have priority, followed, if possible, by others when they are repaved. A committee composed of: City Planning Director Cecil Wight, Acting General Manager G. R. Davis, Ottawa Hydro Commission, and Alan K. Hay, Chief Engineer, F.D.C., has been named to discuss plans.

Three Weeks Holidays in Thirty-three Years

DURING his 33 years as Superintendent of Orangeville Hydro-Electric Commission, William "Bill" Marshall has taken only three weeks holidays.

Born in Fergus 69 years ago, Mr. Marshall has played a significant role in the growth of the Orangeville system which was supplied with steam-generated power when he became associated with the Commission. Today, he can still be found with belt and spurs ready to climb any pole in the municipality.

In addition to his duties with the Orangeville Hydro-Electric Commission, Mr. Marshall has served for 32 years as the town's municipal engineer, and has supervised its sewage and waterworks systems.

Active in the Masonic Order, he is a member of Fergus Lodge, A.F. and A.M., and of Ionic Chapter, R.A.M. Orangeville.



WILLIAM MARSHALL

REPRESENT 10 NATIONS

(Continued from page 2)

as guests of Ontario Hydro in the Park Restaurant at Queenston.

Richard L. Hearn, General Manager and Chief Engineer, extended a welcome on behalf of the Commission during the luncheon, and gave a brief but interesting description of the Sir Adam Beck No. 2 development.

During the afternoon the visitors inspected the Sir Adam Beck No. 1 Station. They also visited Hydro's floral clock, and later went on to see preliminary construction work in progress at the site of the Sir Adam Beck No. 2 project. To conclude the trip, the visitors were taken to view the scenic beauty of the famous Niagara cataracts.

NEW SECRETARY AT LATCHFORD

Roy S. Burkholder has been appointed Secretary of Latchford Hydro-Electric Commission replacing Harry Conroy who recently resigned. Mr. Conroy had held the position since the inception of the Latchford Commission in January, 1950.

SERVED HYDRO FOR 20 YEARS

WALTER RANDALL LUSHER, Assistant to the Chief Engineer at the Approvals Laboratory of the Canadian Standards Association in Toronto, and previously associated with Ontario Hydro for 20 years, died recently at his Toronto home after a short illness. He was 53.

Educated in New Zealand, where he was born, and later in England, Mr. Lusher worked in Colombia before coming to Toronto in 1929 as an electrical engineer with the Commission.

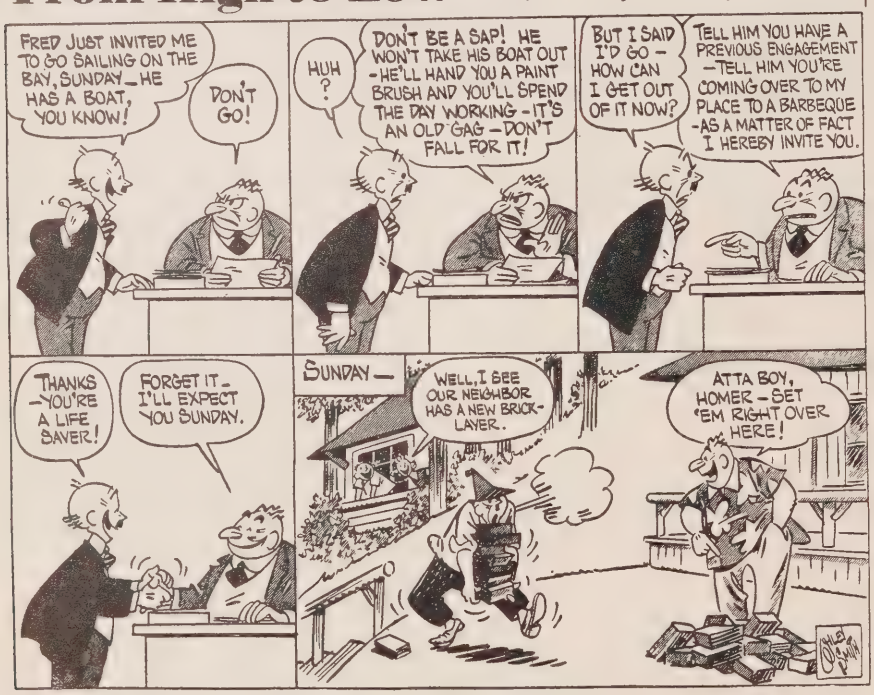
He was a member of the Engineering Institute of Ontario and the Church of the Transfiguration. Surviving are his widow, the former Leonore Moorcroft, and a son, John Randall.

A GOOD SCOUT

Born and educated in Lansdowne, Ontario, Floyd A. McRae has been Secretary-Treasurer of the Brockville Public Utilities Commission since 1947. A married man, he is a member of the Masonic Lodge, while his hobbies include fishing and gardening. He also takes an active interest in local Boy Scout activities.

(For story on the town of Brockville see page 6).

From High to Low -:- *By Wiley Smith*



Reprinted from The San Francisco Examiner

TESTING TIME

(Continued from page 16)

ers, instructors give each driver a brief "chalk-talk" with the aid of a blackboard, demonstrating his weak points and making suggestions for improvement.

Each man is impressed with the necessity of driving consistent with road, weather and traffic conditions in order to have perfect control of his vehicle at all times. Also stressed is the need for the utmost courtesy on the part of the driver in any situation where another driver or a pedestrian is involved.

The phycho-physical tests have revealed that age is not necessarily a criterion of a driver's ability, instructors report. However, a younger driver generally has a more rapid reaction, both physical and mental, they point out. On the other hand, the older driver has the edge in experience, and hence, more wisdom in the ways of the road. Thus, the senior man is usually less inclined to take chances.

Many veteran drivers, with long, accident-free records, have acclaimed the value of the tests, which are designed to benefit both the public and the Commission in promoting and maintaining a high standard of driving as well as prolonging the life and improving the mechanical operation of vehicles through increased driving efficiency.

ASSISTANT MANAGER

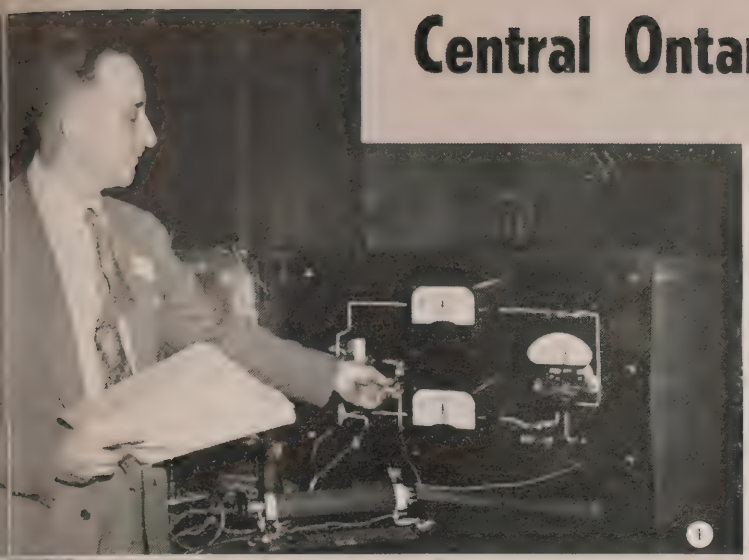
WILLIAM SECORD has been appointed Assistant Manager of Brantford Public Utilities Commission's Hydro department.

Born in Brantford, Mr. Secord is a recent graduate in electrical engineering of the University of Toronto. He is a veteran of the RCAF, and before entering university was with a construction company for two years. His brother, Lieut. Donald Secord, is now serving in Korea.

WATERLOO EXPANSION

Waterloo Public Utilities Commission will expand and rehabilitate its electrical distribution system during 1951 and 1952, at a cost of nearly $120,000—to be financed from available funds and a $100,000 debenture issue. The plan calls for a new 2,000 kva substation at a cost of $40,000. The remaining $80,000 will be spent on additions and improvements to the system.

Central Ontario Meter Association

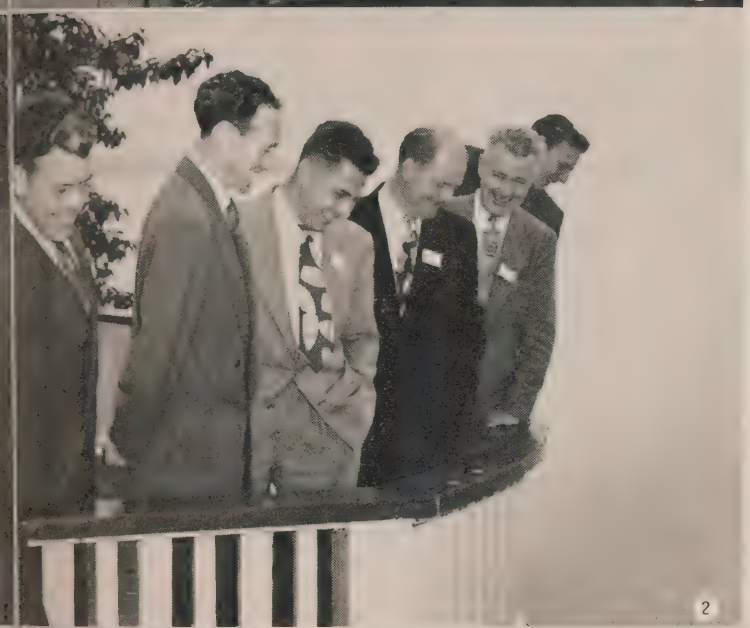


FILMS, an interesting address on the Thermal Demand Meter, and a lively question and answer period featured a well-attended meeting of the Central Ontario Meter Association held recently at Fern Cottage, Lake Couchiching.

During the afternoon session, Douglas Bruce, representing the Sangamo Company Limited, described the principles of operation of the thermal demand meter and its application to meter maintenance.

Approximately 120 members of the association enjoyed the dinner which was followed by a presentation of C.G.E. films and a discussion period conducted by Don Foreman, Mimico Public Utilities Commission, assisted by Tom Honan, New Toronto P.U.C. The panel of experts included Horace Dowdy, Ferranti Electric Limited; Alex Christie, North York Hydro Commission, as well as Bill Baker, and Walter Percival, Ontario Hydro.

Photographic impressions of the one-day meeting appearing on this page show (1) Mr. Bruce demonstrating some of the features of the thermal demand meter; (2) Judging by the amused expressions of this group, which includes, left to right, T. H. Bailey, Toronto Township Hydro Commission; Thomas Martin, Etobicoke Hydro Commission; Don Holmes, Toronto Township Hydro; James Johnstone and John Cruickshank, Canadian Government Inspection, Toronto and E. Pearce, North York Hydro Commission, somebody must have taken a "header". More serious discussion is in progress in (3) as James Vanderleck, H.E.P.C.; H. J. Doughty, Ferranti Company; Meter Association President Stan. Upper, H.E.P.C. and W. H. Finnelley, Canadian Government Inspection, await the dinner gong. In (4) T. M. Robinson, Owen Sound P.U.C.; M. W. Downs, Meaford P.U.C.; E. J. Head, Canadian Government Inspection, and G. Morrison, Owen Sound P.U.C., enjoy a pre-dinner chat.









Wallaceburg Ceremony

WALLACEBURG marked an important event o July 9 when 60-cycle power was delivered t two of its major industries. Thus, it became th first town in Western Ontario to take advantage c the Commission's plan to make 60-cycle available t industrial firms in the 25-cycle area in advance of th scheduled frequency standardization operations. Th plan, generally known as the "duplicate service pro gram", is designed to keep 25-cycle load growth to minimum. Inauguration of 60-cycle service was ob served at a complimentary dinner in honor of severa Ontario Hydro and municipal representatives followe by a brief ceremony at the Wallaceburg Commission new Dell Street substation. A. D. Stewart, Manage of the Wallaceburg Commission, is shown closing a air-brake on a transformer just before 60-cycle powe was "turned on" for the first time. Watching M Stewart, the group, left to right, includes W. Ro Strike, K.C., Second Vice-Chairman; R. M. Lauri Manager, Western Region, and A. W. Manby, Assis ant General Manager—Administration, Ontario Hydr with Mayor W. J. Picard and J. D. Hawken, membe of the Wallaceburg Commission.

Four Generations

FOUR generations of a Rostock family were among the large audience on hand to see R. M. McKenzie, Manager of Hydro's West Central Region, right, turn on the new street lights in this Perth County village recently. Eighteen-months old June Stone, left, in the arms of her mother, Mrs. George Stone, Stratford, watched the ceremony with her grandmother, Mrs. Levy, and Mrs. Mary Malcho, 91, her great-grandmother. The ceremony coincided with the inauguration of a new baseball park and was attended by provincial and municipal representatives.





Coventry Address

DURING a recent overseas trip, Cecil W. Boa way, Hydro's Communications Engineer, visited se eral parts of England as well as Holland and Be gium, where he inspected the latest developmer in electronic equipment and telecommunications faci ties. One highlight of the tour was a lectu arranged in Coventry, England, by the General Ele tric Company Limited. Here Mr. Boadway gave illustrated talk to a large group representing sever British communications organizations. Using slid —most of them from photos taken by Hydr Photographic Services Section—Mr. Boadway de with the scope, achievement and technique of te communications in this country. He was introduc by R. E. Robinson, Managing Director of the te communications organization, and had the opportun of meeting members of his audience personally at social hour following the address.

Photo-news



THIS KIND OF TARGET PRACTICE
costs money

Yes, Junior scored a bulls-eye all right . . . right on your pocketbook. You won't be called on to replace it yourself, but as a citizen of Ontario and one of the owners of Hydro, you pay for the damage in the long run.

Actually, the insulators themselves are comparatively inexpensive. But the damage that can result from a broken insulator can cause serious power interruptions by cutting service on that line. Hospitals may be deprived of power at a critical moment. Machines in factories may be stopped. Homes and farms may be affected, too. There is the added hazard of fire and if the wire falls to the ground, property and lives are endangered.

When an insulator is smashed, a crew of men and a truck travel miles to locate and repair the damage . . . and that costs money. Hydro appeals to you to help to prevent the deliberate or careless destruction of Hydro property . . . *your* Hydro property.



The Hydro-Electric Power
Commission of Ontario


RAGGED CHUT



VOL. 38 SEPTEMBER 1951 NUMBER 9

HYDRO News

SEPTEMBER, 1951

VOLUME 38 NUMBER 9

Published by

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 University Avenue, Toronto

Canada's "White Coal"

SINCE the beginning of the present century, a striking parallel has existed between Canada's installed electric capacity and her economic development.

This fact was stressed recently in an interesting issue of the *Monthly Review* published by the Bank of Nova Scotia.

Today, the *Review* points out, "Canada is among the foremost power-using nations of the world."

Industrial expansion — including new pulp and paper, as well as mining and metallurgical developments; great activity in the heavy industries, and an increasing use of electricity for manufacturing purposes generally — is cited as a significant factor in Canada's mounting demands for electrical power. But, as this resumé of hydro-electric development in Canada points out, power consumption for domestic, commercial and rural purposes has been "continuous and pronounced," reflecting higher living standards and an expanding population.

For instance, in Ontario, where approximately half of Canada's entire industrial production is centred, power demands have been soaring at an unprecedented rate. In a matter of six years, between 1945 and the end of 1950, Ontario Hydro has been called upon to meet increases of 97.4 per cent in domestic consumption; 79.4 per cent in commercial use, and 24.9 per cent in industrial consumption.

The *Review* also directs attention to the interesting fact that in Canada, as a whole, the capacity of hydro-electric installations has been increased by some 10 million horsepower in the past quarter century. It estimates that by the end of 1951, the total capacity will have passed 13½ million h.p., and that, within the next few years, it will have reached 16 million h.p.

Stressing the increasing expansion taking place in practically every field of endeavor in Canada, and the steadily-mounting demands for power, the *Review* comments: "Indeed, the need to obtain more power for Canadian industry stands well to the centre of the problems of defence economy as is shown by Canadian advocacy — and particularly that of industrial Ontario — of an immediate start on the St. Lawrence Seaway."

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COVER PHOTOS

ONE of the features of Hydro's Aguasabon development, on the rugged north shore of Lake Superior, is the 240-foot steel surge tank depicted in this month's front cover photo by Hydro Photographer E. A. Johnston. Equally photogenic is the picturesque section of the Wanapitei River near Sudbury on the back cover which caught the eye of another member of the Commission's photographic staff, Robert Armstrong, during a recent trip to the "north."

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RVED from solid rock, the
observation plaza, built
the agara Parks Commis-
n, of s an unusual view of
ada Horseshoe Falls. Since
was ficially opened earlier
sum er, this new vantage
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New Electrical "Forecaster" on Top of 17 - Storey Toronto Building Gives Latest Weather Predictions

"Light"

TORONTO citizens can now "tell the weather" at a glance.

Crowning the Canada Life Assurance Company's 17-storey building on University Avenue in the Queen City is a new, electrically-operated forecasting mechanism.

Predicts Weather and Temperature

First of its kind in Canada, the illuminated barometer was installed by the company as a service to the public. Consisting of a mast and beacon, equipped with an intricate system of lights, the tall pylon indicates weather and temperature variations for the following day.

The beacon of the big "forecaster" predicts the type of weather the Toronto area will have by means of colored lights. When the beacon is green, clear weather may be anticipated. A steady amber light denotes cloudy weather; rain is indicated by a flashing amber signal while a flashing white light will presage snow. In addition to these signals, rows of white bulbs in the tower or mast panels below the beacon indicate temperature variations. Lights running up the panels mean warmer temperatures; cooler weather is on the way when the lights run downward, while the lights remain steady if no change is predicted. Changes in the signals will be made on receipt of the four daily forecasts from the meteorological office in Toronto.

To assist the public in the proper interpretation of the various signals, thousands of "code" cards have been mailed to Toronto householders. These pocket-size cards contain the key to the meaning of the combinations of lights on the electrical weather-vane.

41 Feet High

This installation consists of a 34-foot tower, surmounted by a 7-foot beacon. The base of the tower is 280 feet above street level. Including the tower and beacon, it juts 321 feet into the Toronto skyline.

The tower has 19 stainless steel lamp panels on each of its four faces, carrying a combined total of some 1,100 clear 10-watt lamps. The beacon, with plexi-

by
Ian L. Thomson
Hydro News

he Weather

glass faces, undersides and dome, houses 400 white, green and amber lamps, ranging from 25 to 40 watts.

24-Hour Operation

The illuminated weather cock, which is now operating on an around-the-clock basis, contains over 9,000 feet of electrical wiring. Four transformers and various manually-operated and time switches, which control the various color combin ations, are also an integral part of the interesting installation. No other special equipment was required for the mechanism, which operates off the building's main power supply and uses approximately 22.1 kilowatts.

Inaugural Ceremony

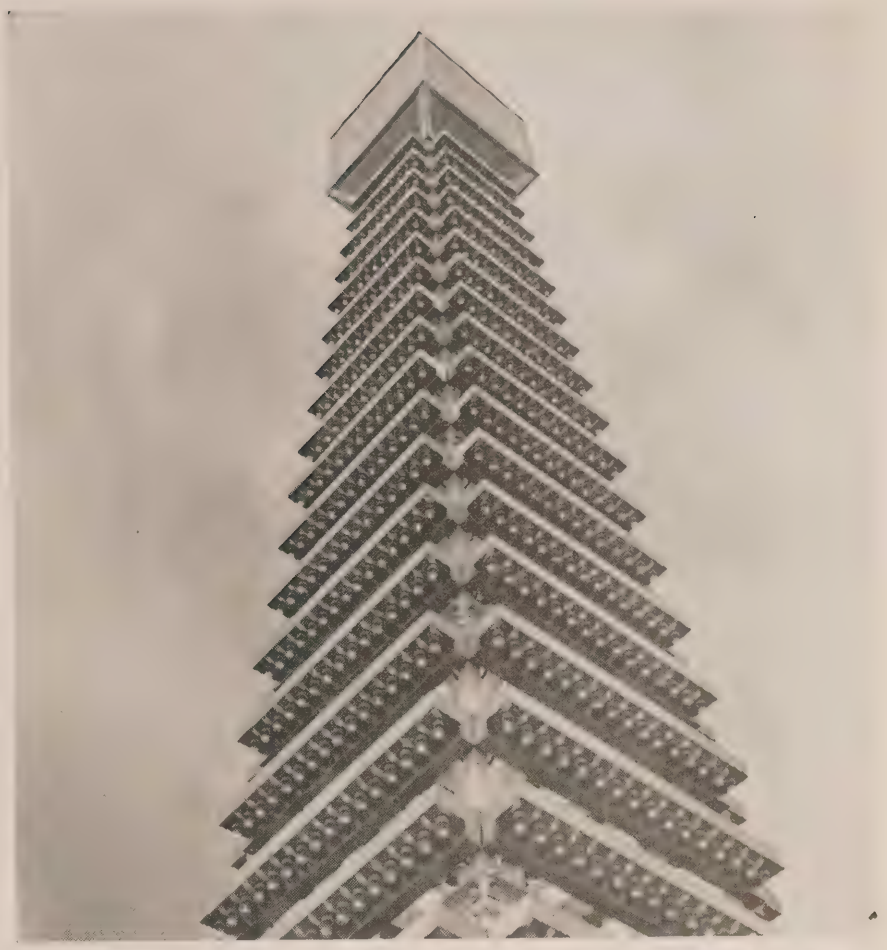
The new weather service was inaugurated recently when officials of Canada Life and the Department of Transport (Meteorological Branch), together with representatives of the press and radio, watched P. D. McTaggart-Cowan, Assistant Controller of the Meteorological Ser vice, and Keith T. McLeod, Superintendent of the Public Weather Service, flip the installation's control switches.

No official figures have been released as to the exact range of the installation, but, it is anticipated that it will be visible from nearly all points within the city limits.

"CODE" CARD



DISTRIBUTED TO all householders in the Toronto area, this code card interprets the meaning of the tower's light combinations.



CLOSE-UP VIEW of the new "barometer" shows the large number of lamps used in the panels. The tower is approximately 34 feet high, and the beacon on top is 7 feet. Base of the tower is 280 feet above street level. The "forecaster" is now operating on an around-the-clock basis.



ENGINEER REG. COWARD (right) gives his assistant, George Livingston, the correct switching sequence for the latest weather prediction received from the local Meteorlogical Office in Toronto. Four daily forecasts are relayed from the Met. office, and any changes are made from this board.

MISSION COMPLETED

Standardization crews finish important job of changing over some 1,200 pieces of electrical equipment at University of Western Ontario



MOBILE CONVERTER IN FRONT OF NATURAL SCIENCE BUILDING ENABLED UNIVERSITY TO OPERATE ON BOTH CYCLES DURING CHANGEOVER.

by Frank Wood
PUBLIC RELATIONS DIVISION
(F.S.D.)

MEMBERS of Hydro's Frequency Standardization Division staff at London, Ontario, are feeling particularly happy these days.

"Cutover" day at the University of Western Ontario is over and most of the hundreds of pieces of delicate, frequency sensitive equipment in that institution of higher learning have now been changed over for operation at 60 cycles without a mishap.

"Western" is the first university where frequency standardization operations have been undertaken. Several of the complicated machines in the various laboratories presented some unusual problems for Commission technicians and members of the staff of Hydro's contractor, the Canadian Comstock Company.

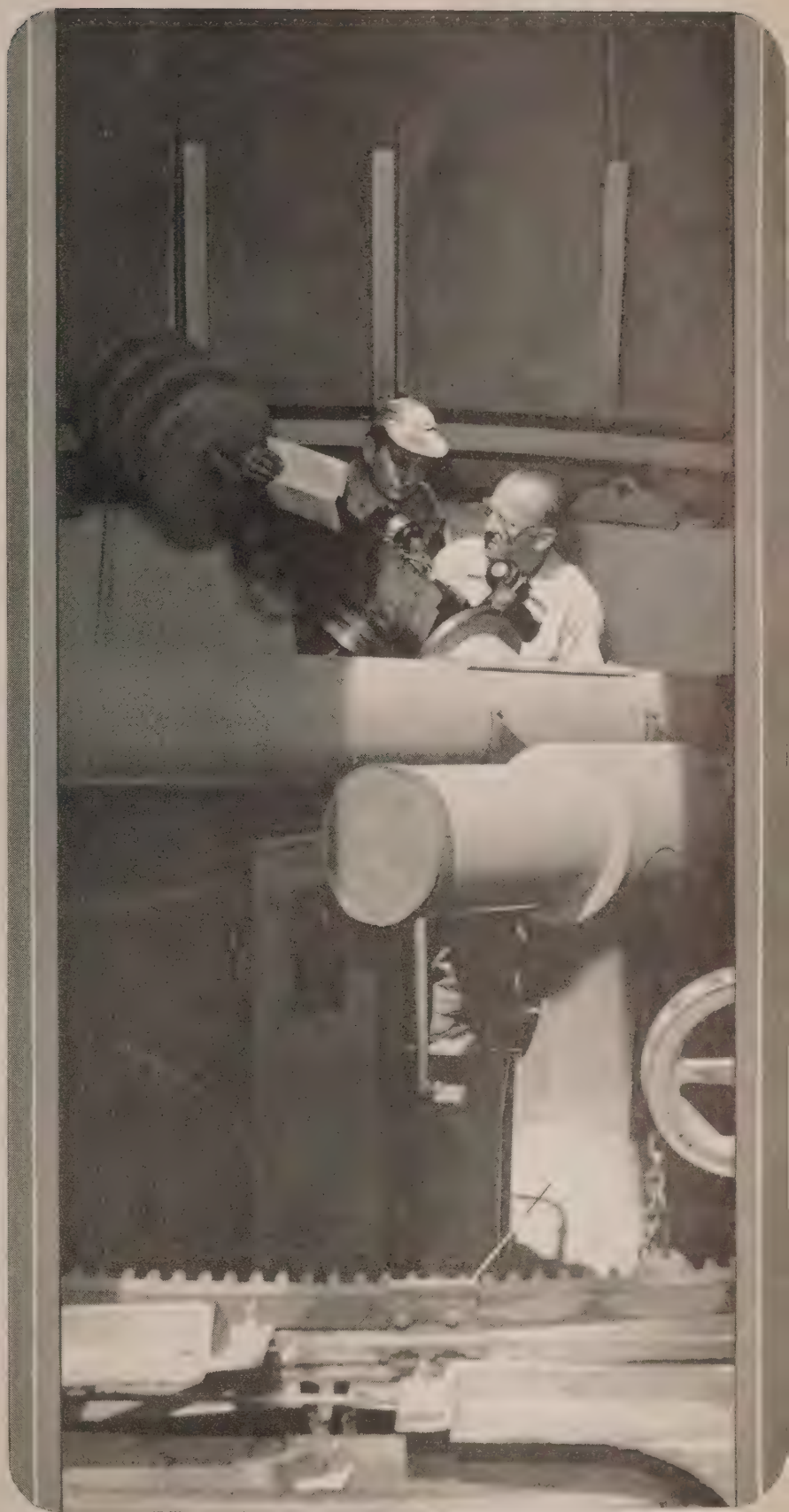
No Casualties

For instance, in the chemical laboratories, where important and exhaustive experiments are carried out, technicians had to work "cheek by jowl" with test tubes and retorts of imposing shapes and sizes. Even the most careful workman will drop a tool at times. The men in charge of the project were bothered by the possibility of a precious piece of equipment being shattered by a falling wrench. But their fears were groundless! Not a tool was dropped, not a table was shaken, nor a retort overturned. "Operation Cutover" was executed without a single casualty.

"Highly critical" was the description accorded the task of changing over vacuum pumps and refrigerator motors, also located in the chemical research laboratories, where the presence of certain gases involved careful planning and painstaking effort on the part of technician to avoid the possibility of explosions.

Research Laboratory

The laboratory in the Collip Medical Research Building was a further challenge to the technical skill of standardization crews. Here, workers had to alter electrical equipment which had been enclosed to prevent contact with highly volatile vapors emanating from a huge "still," used particularly for hormone experimentation. The Department of Medical Research, headed by Dr. J. B. Collip,



LARGE TELESCOPE in Hume Cronyn Observatory was among most unusual types of equipment encountered. Chief Electrician William Curnoe and Hydro Technician J. O. Joliffe check 1/150 hp. motor used to rotate telescope when photographing astral bodies.

is well-known for its studies in this field.

A refrigerator in another laboratory in the Collip Building required special attention. The "frig" in question contained pituitary glands from such domestic animals as cows and horses. It was important to keep temperature variations at a minimum as any appreciable fluctuation would have rendered the valued specimens useless for experimental purposes. In the Medical School, technicians encountered a rare piece of equipment—a mechanical "heart and lung," used mainly in determining the effect of drugs on the heart.

Experiments in Progress

Standardization crews found it necessary, at times, to alter equipment in several "labs" where experiments and tests were in progress. This frequently involved dismantling a machine which was functioning in connection with an experiment, requiring a thorough knowledge of the operation and purpose of each machine on the part of the technicians handling the alterations.

Some 60 technicians, who had been briefed to the last detail on the various phases of this important undertaking, were engaged in the changeover at Western. On the actual "cutover" day, power for 14 buildings at the university was off for about 40 minutes. During this time approximately 1,200 pieces of frequency sensitive equipment were labelled to ensure that they would be re-connected to a circuit supplying the proper type of power. At the same time mobile frequency changer units were installed to supply 25-cycle power to equipment not scheduled for immediate changeover, while such equipment as refrigerators, pumps, food processing machines in Fingal Hall, the University's cafeteria, was altered immediately and re-connected to the 60-cycle circuits.

"Ticklish" Job

With the cutover to 60-cycle power an accomplished fact, technicians proceeded with the "ticklish" job of altering important pieces of research machinery.

Perhaps outstanding among the many interesting and unusual types of equipment changed over was the 10-inch refractor telescope in Western's Hume Cronyn Memorial Observatory. The large telescope is equipped with special 1/150 horsepower motors designed to permit the telescope to follow the movement of astral bodies while time exposure photographs are being taken.

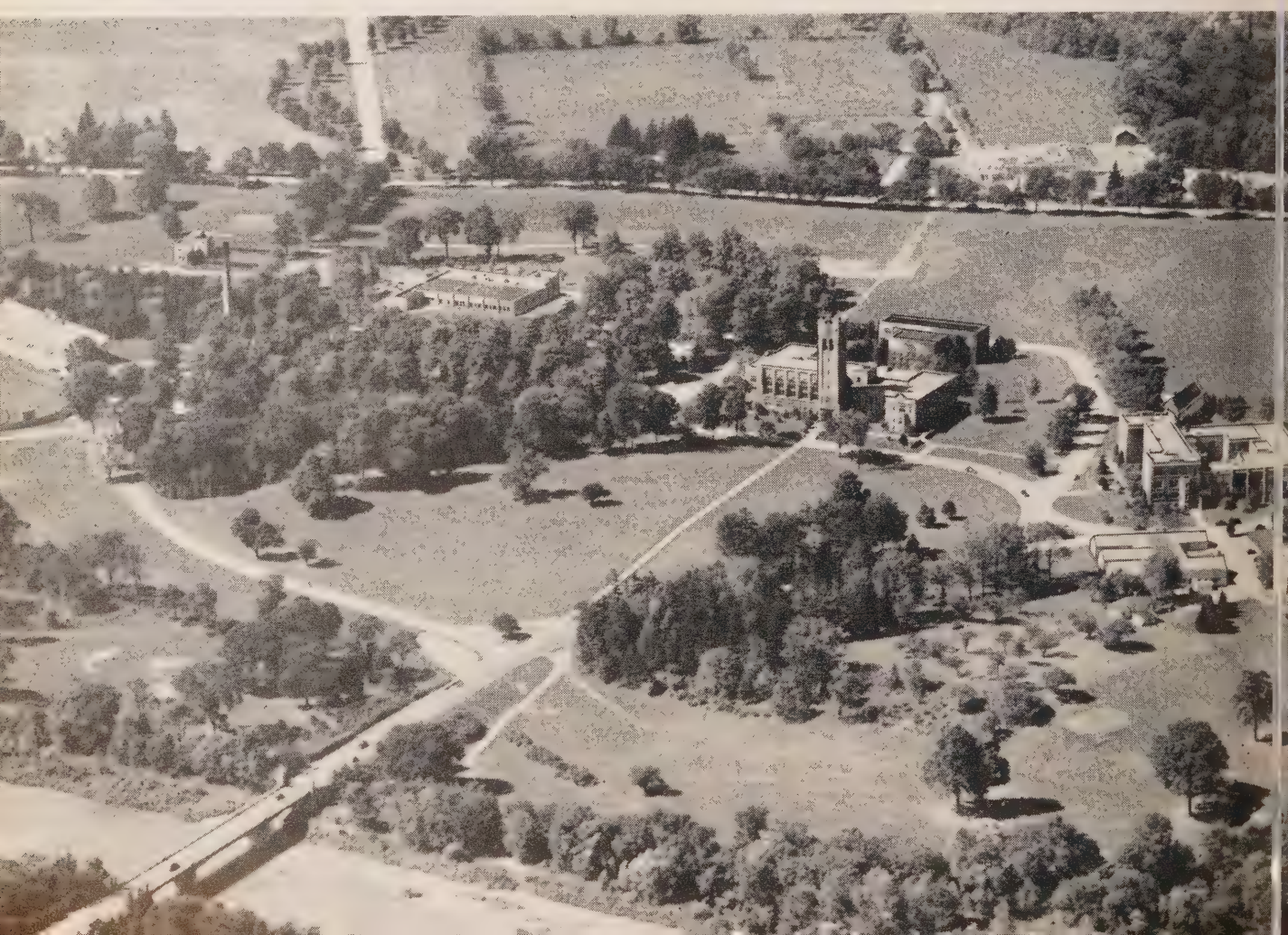
Veritable "Gold Mine"

The Natural Sciences building was a veritable "gold mine" of frequency-sensitive electrical machines. The Electronics Section, it was found, made use of many types of meters. It was necessary to change over this delicate equipment with extreme care while the altering of other equipment, such as fluorescent lighting fixtures, in the rooms where the meters were located, involved unusual precautions to avoid possible damage.

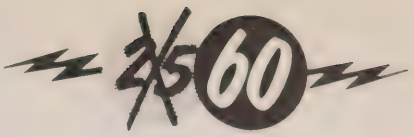
While standardization was in progress at Western, other electrical improvements were also effected. The voltage, for instance, was changed from 550-volt, 3-phase, to 208-volt, 3-phase, 4-wire, thus permitting a reduction in the quantity of switchgear necessary for power distribution while increasing the flexibility of the university's electrical system.

"Understanding, help and co-operation," manifested by the heads of depart-

AERIAL VIEW OF "WESTERN," FIRST UNIVERSITY IN ONTARIO'S 25-CYCLE ISLAND TO USE 60-CYCLE POWER.



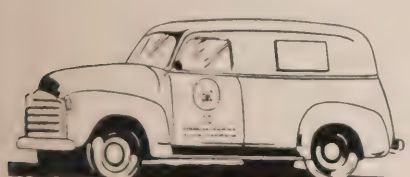




IN THE Collip Medical Research Building, standardization crews had to take special care in changing over a large still, used primarily for hormone experimentation Photo on the left shows Erling Pedersen, laboratory technician, filling the still which is now operated by a 60-cycle motor. BELOW — James Boyd prepares to "X-ray" a white rabbit after the machine had been altered.

ments, technicians and maintenance staff were important factors in the successful completion of this large project, Alvin G. Brenneman, Project Manager of Ontario Hydro's Standardization Area "C" in which the university is located, reported recently. He was replying to the commendatory remarks of Dr. H. R. Kingston, Dean of Arts and Sciences, who praised the courtesy and efficiency of the Commission's standardization crews.

Changing over the many pieces of electrical equipment was a complex undertaking which will have many advantages for Western, including the possibility of using a wider range of equipment, available only for operation on 60-cycle power. But the university is only one among nearly 900,000 customers in the Commission's Southern Ontario "25-cycle island" who will eventually enjoy the benefits that 60-cycle power brings.





POWER GOLIATHS



Heavy Equipment For No. 1 Unit Is Installed At R. L. Hearn Generating Station In Toronto

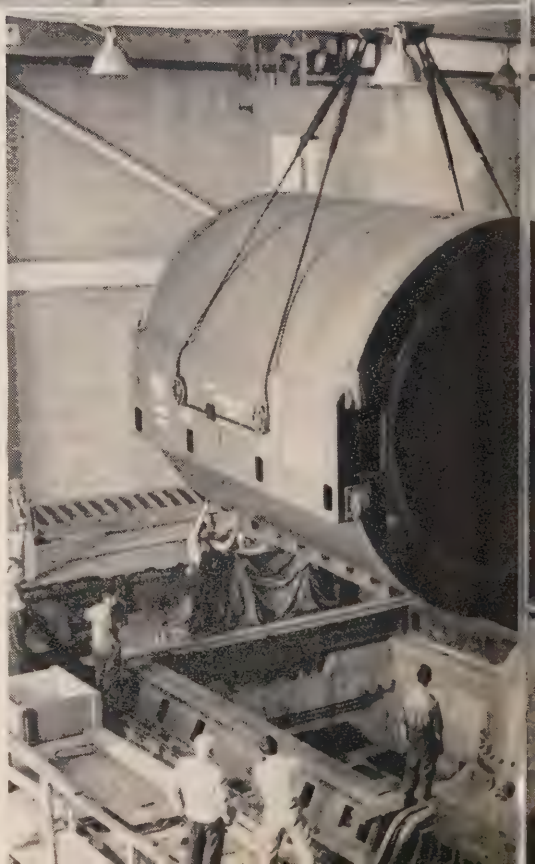
RECENT arrival of a large rotor from Great Britain completes shipment of major equipment for the first 134,000-horsepower generating unit at the R. L. Hearn Generating Station in Toronto.

The main parts of this unit, which is scheduled for initial operation this fall, comprise the rotor, weighing 78 tons; the stator, 157 tons, and the stator casing, 65 tons. All of these parts arrived in this country during August.

By 1953, four such units are expected to be in service at this station, which has been named in honor of the Commission's General Manager and Chief Engineer. These units will have an ultimate total capacity of 400,000 kilowatts (536,000 horsepower).

Power generated at the station, which will be the largest in Canada, will be fed into the 115 kv network in the Toronto area.

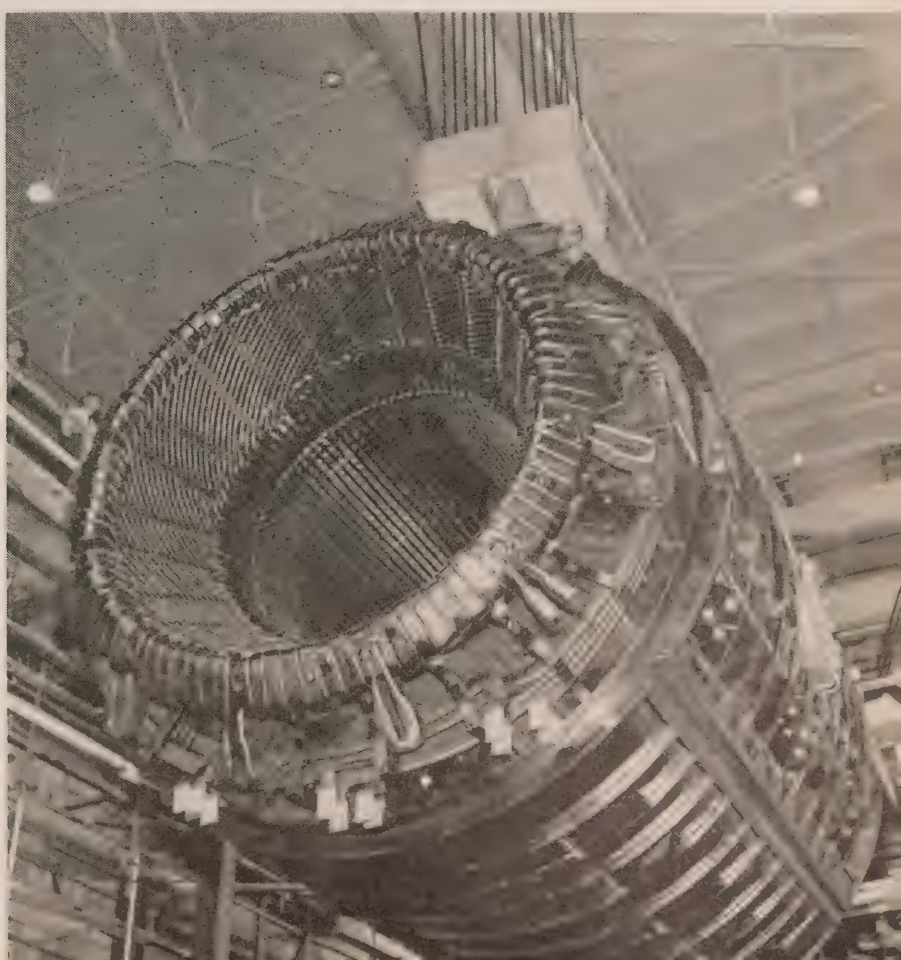
Recent photographs, shown on these pages, graphically illustrate the size of the equipment which is being installed to help cope with Ontario's in creasing power demands.



INSTALLATION of the 65-ton stator casing was one of the major jobs in completing Unit No. 1. At right, the massive casing, measuring over 21 feet long, 17 feet wide and 16 feet high is hoisted into position. Fully assembled, rotor, stator and casing weigh some 290 tons. Unit No. 1 is scheduled for service this fall.

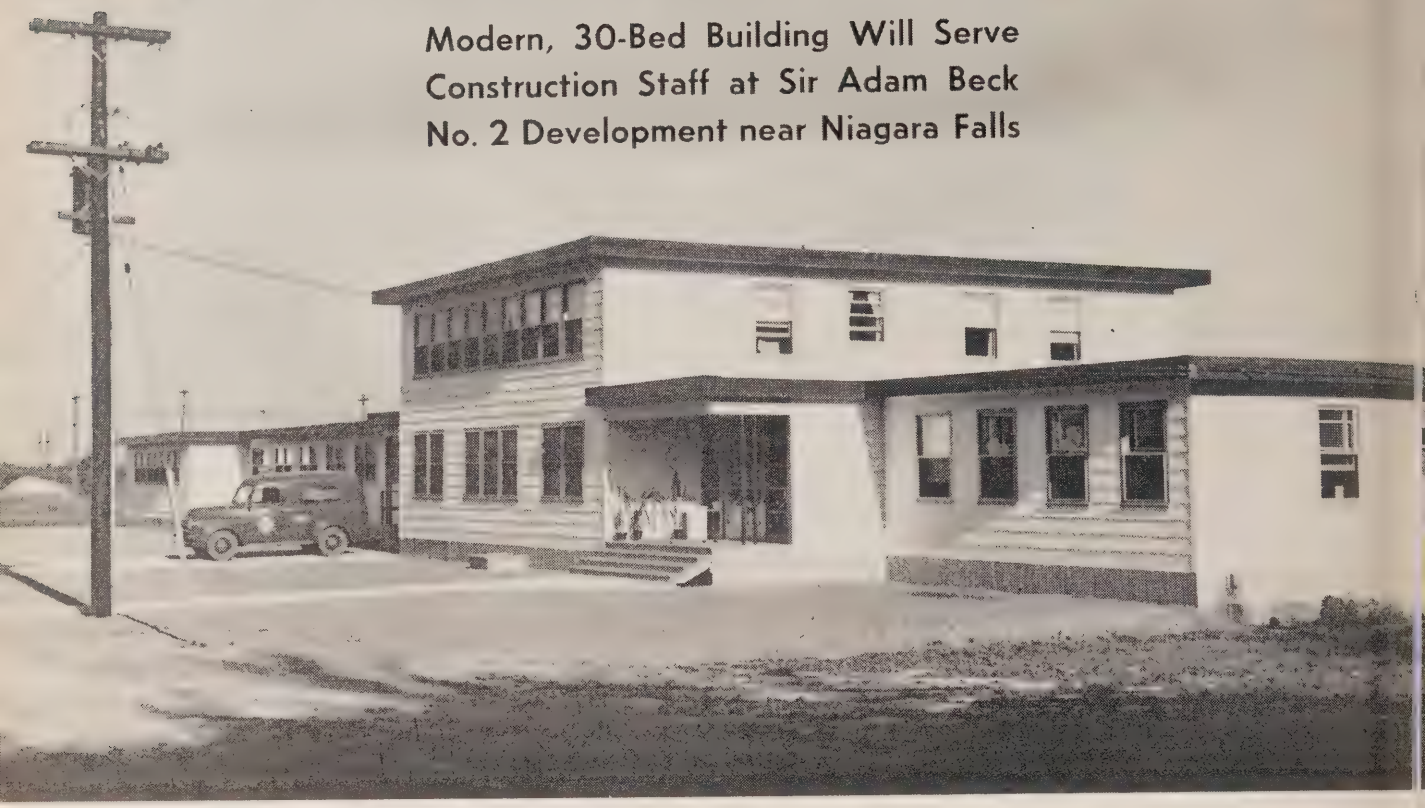
BELOW — A few days later, Canada's largest stator, weighing 157 tons, arrived at the station. Heaviest piece of equipment ever transported by the Canadian National Railway, the stator was brought to Toronto from Sorel P.Q., on a special steel flat car. Speed of the train was reduced to three miles an hour in some places as a three-inch sway would have toppled the heavy load. On arrival at Toronto, the train was delayed while one bridge was reinforced. Here the stator is being lifted into place by the giant powerhouse crane. ABOVE — Last major part for the station's first 100,000 kilowatt (134,000 hp) unit, the 78-ton rotor is being installed under the supervision of skilled technicians.





Hydro's New Hospital

Modern, 30-Bed Building Will Serve Construction Staff at Sir Adam Beck No. 2 Development near Niagara Falls

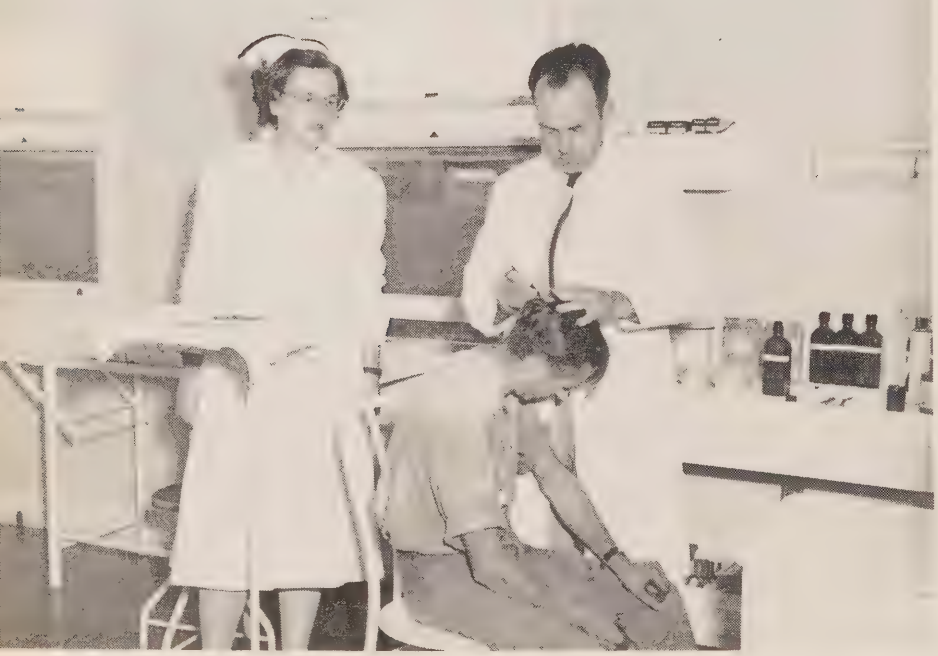


DESIGNED to provide "on-the-spot" medical care for construction workers and staff at Hydro's Sir Adam Beck No. 2 project, a new, 30-bed hospital was opened recently.

Located in the administrative area near Camp No. 2, some three miles from Niagara Falls, the two-storey frame building is fully equipped to handle accidental injuries as well as illnesses.

Both Hydro staff and employees of contractors, engaged in construction at the development, will be treated here, in conformity with the Commission's established policy of providing medical, educational, and recreational facilities at all of its major construction sites.

The main floor of this modern "house of healing" includes space for two doctors' offices and examining rooms, an operating room, X-ray room, a small laboratory and a dispensary, as well as an emergency room for first-aid cases. Single, double,



DR. D. K. GRANT, Medical Officer, assisted by Nurse Mary Shea, treats a construction employee for a head injury at the new hospital.

and four-patient wards, a general ward for approximately 14 patients, as well as an isolation ward are also located on the main floor.

Hospital Staff Quarters

The second floor of the building accommodates the hospital nursing staff, and includes single bedrooms for four nurses, a housekeeper's room, a large living-room and a sun deck.

Each room in this modern building is tastefully decorated in pastel shades, while fluorescent lights and linoleum-covered floors are featured throughout. A nurses' call system, to the nurses' station, connects all rooms. Service rooms in the building include a servery and up-patients' dining room on the main floor, and a kitchenette for the nurses on the second floor.

Dr. D. K. Grant is the medical officer in charge of the new project hospital. Two nurses, Mary Shea and Ruth Gouinlock, are now on staff, and it is anticipated that, eventually, there will be four full-time nurses. In addition to the present nursing staff, there are five first-aid men on 24-hour shift duty in the hospital, and three men in charge of the first-aid posts at the Chippawa and Queenston camps. The hospital secretary,

(Continued on page 32)



ABOVE: ADMITTING ENTRANCE for ambulance cases at the hospital is designed to facilitate careful handling of stretchers. Modern in every respect, the new building has an operating room, x-ray room and laboratory, also a dispensary and an emergency room for first-aid.

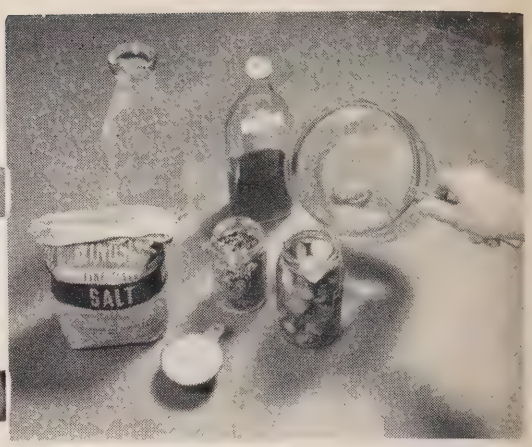
BELOW: NURSE MARY SHEA and Mrs Ethel Amell, house-keeper makes the beds in a section of the bright, airy general ward. Other accommodation in the new hospital includes single, double and four-patient wards. Additional rooms include servery and up-patients' dining room.



HYDRO HOME FORUM



by
Edithemma Dighton
Home Economist



September has rolled around again and already the days are beginning to grow shorter. If only the clock would stop it would help during this peak period of canning fruits and vegetables!

* * *

Sugar is used in canning for flavor and not as a preservative. However, it does improve color, flavor and texture.

* * *

Expert cleaning of food and equipment, as well as watching the exact processing period, are important factors in good canning.

* * *

Sterilize jars and tops in the electric oven. That's the easy method! All you do is fit the glass tops on the scrubbed jars, then place them on a cookie sheet in the oven. Keep jars in a preheated oven of 275 degrees for 25 mins. before filling each one.

* * *

Never invert jars of fruit until cool. You may break the seal.

* * *

Put a girdle around paper baking cups to keep their shape during the cooking period. We place zinc jar rings on the cookie sheet and insert the paper shells in each.

* * *

Maple syrup at this season? Well, you can make a good imitation by adding maple flavoring to leftover canning syrup. This syrup may be bottled in sterilized jars for winter use.

* * *

Here's an easy way to ice a cake! Simply place the plate on the turn-table of your electric mixer and revolve it by hand as you ice the sides.

* * *

When icing a sandwich loaf with cream cheese, use sour cream instead of milk when mashing the cheese. The sour cream enhances the flavor and the cheese will not harden or dry out.

Extra nice with extra spice! When you make fruit pickles, save any of the pickling syrup to flavor spice cakes, apple-sauce, fruit salad dressings or bread pudding. You can use any syrup left in the jar after the pickles have disappeared, too!

* * *

Beat the beater! Pull a square of paper towelling or waxed paper over the egg beater to prevent mixture from splashing out of the bowl as you operate the beater.

* * *

Hot spatters from frying chicken or fish may be avoided by placing a circle of paper towelling over the food. Never let the paper "lean" over the edge of the pan as it might catch fire.

PENNY PICKLES

Cucumbers —6 qts.
Water — 4½ qts.
Salt — 2 cups
Sugar — 5 cups
Vinegar — 1 gallon
Whole spice — 1 ounce
Cinnamon — 2 sticks
Mustard seed — 2 tbsps.

WASH cucumbers, put in a crock or large enamel basin and cover with a brine solution of the cold water and table salt (not iodized). Add one clean (copper) penny to keep cucumbers green. Let stand 24 hours, then drain, rinse and drain. Remove penny. Put cucumbers in clean jars. Dissolve sugar and vinegar, tie spices in a small square of cheesecloth. Simmer in the sweet vinegar for 5 to 8 mins. Let spiced vinegar cool to lukewarm, then pour over pickles. Seal. Let cure 5 to 9 weeks before using.

A secret for perfect poached eggs: Add a tablespoon of vinegar and a pinch of salt to the boiling water. Stir until you have whirlpool in the centre. Then slip each egg from a saucer into the water and cover. Turn heat off.

* * *

Shells may be removed easily from hot hard-cooked eggs if rinsed quickly in cold water.

* * *

To cook a cracked egg in the shell, simply add a teaspoon of salt to the boiling water.

* * *

When shredding kernels off corn cobs, pierce the ear of corn at the larger end with an ice pick. This provides a convenient handle.

* * *

When preparing lettuce for the refrigerator, wrap in a paper towel rather than a cloth to prevent rusting.

* * *

Melon storage! You can chill melons easily, even in a small space, by decreasing the bulk. Cut cantaloupe into quarters, remove the seeds, pare off the rind, and place in a casserole. Cover and chill in the electric refrigerator. Watermelon and honeydew are usually prepared in cubes and tucked in a covered casserole.

* * *

Ever try a hot dessert using fresh melons? A hot simple syrup poured over cubed raw fruit is delicious.

* * *

Our favorite meat for salad: Make up two packages of lime gelatine and pour into a rectangular casserole. Chill. Meanwhile, spread 4 to 6 slices of cooked ham with plain cream cheese flavored with chives. Roll the meat in jelly-roll fashion. When the gelatine is partially set, press the rolled meat into it. Chill until firm. Cut into servings, allowing ½ inch of jelly on all sides.

NATIONAL HISTORIC SITE

Ontario Hydro to Perpetuate DeCou Homestead Near Thorold

CLOSELY-ASSOCIATED with Canadian history, the DeCou homestead, a Niagara district landmark, is to be perpetuated as a national historic site by Ontario Hydro.

Situated on the Stone Road, two miles from Thorold, the house stands on property acquired by the Commission, nine years ago, in connection with the building of the new Decew Falls Generating Station.

The historic home was built by Captain John DeCou in 1812 as a residence for himself and his family. DeCou, a son of United Empire Loyalists, had migrated to Upper Canada with his parents following the American Revolution. Settling in the Niagara area, he acquired several lots adjacent to the falls (now known as DeCew Falls) on Beaver Dams Creek in 1788. Here, he built his house and some of the earliest mills in the province. One of the first surveyors in this part of Canada, he led a movement to divert more water from the Welland River into Twelve Mile Creek. This proposal, records indicate, marked the first step in the building of the original Welland Canal.

DeCou served as a captain of the Militia in the War of 1812-1814. During the war his house was used as a military storehouse and headquarters for a troop of mounted volunteers and scouts, commanded by Lieut. James Fitzgibbon.

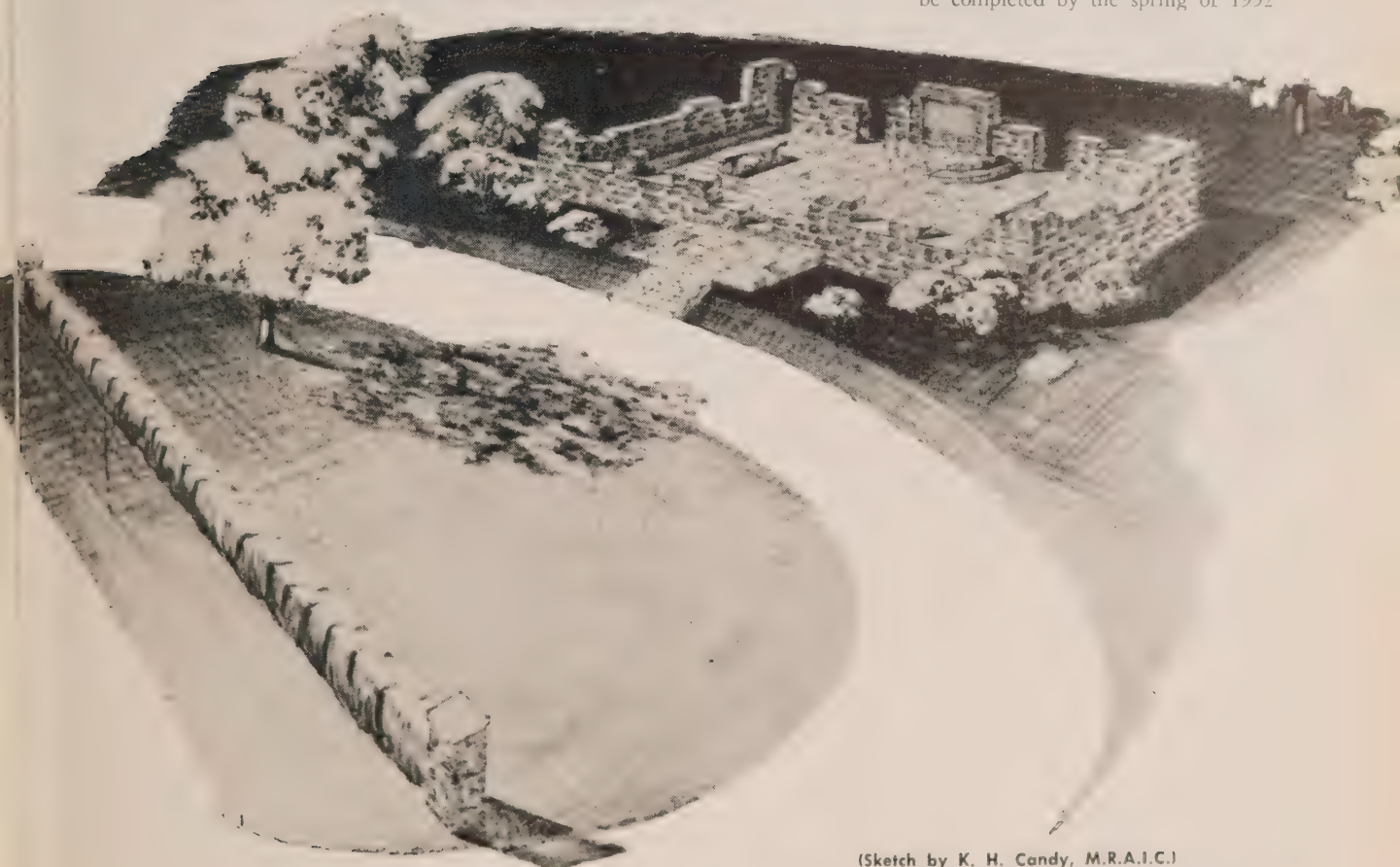
It was to this house that the Canadian heroine, Laura Secord, after a perilous and circuitous journey of 19 miles by foot, brought the information which led to the ambush and final surrender of the American forces after the battle at Beaver Dams on June 24, 1813.

Will Erect Plaque

Remains of the house will be refurbished and the floor covered with flag stones. The existing walls, which are 26 inch thick Queenston limestone, will be left intact to the height of the ground floor window sills. Details of the history of the old homestead will be recorded on a bronze plaque set in one of the walls.

The grounds of the site will be landscaped and new stone piers will be erected at the two driveway entrances.

It is anticipated that the project will be completed by the spring of 1952



(Sketch by K. H. Candy, M.R.A.I.C.)

ARCHITECT'S PERSPECTIVE of the completed historic site. Existing walls of the DeCou homestead will be left intact to the height of the ground floor window sills. A bronze plaque describing the historical background of the house will be set in the rear wall.



Chicks like the BRIGHT LIGHTS

WITH FOOD, water and infra-red light available day and night, chicks grow more quickly than their "dawn-to-dusk" counterparts. Lights are kept on for about six weeks.

Infra-Red Lamp Brooding Method Arousing Wide Interest Among Poultrymen

ONE of the newer uses of Hydro power on the farm is the brooding of chicks with infra-red lamps.

Hydro News recently had the opportunity of seeing one of these installations in operation at R. O. Biggs' farm in the Dundas area near Hamilton. In company with C. A. West, Manager, Dundas Rural Operating Area, and Roy Galway, Hydro Farm Service Adviser, West Central Region, who have been following this particular installation closely, it was learned that over 4,000 chicks had been raised successfully by this method and that the mortality rate was reported to have been exceptionally low.

There are eight infra-red units at this farm and each has six 250-watt lamps. These units, which heat the floor area only are usually placed at a height of about 19 inches when the chicks are very small. As they grow, the height of lamps is increased progressively over a period of six weeks to a maximum of approximately 26 inches. At the end of this time the lamps can be switched off and the "babies" are then "on their own." Another eight weeks, and they are ready for market.

At the farm visited, approximately 450 one-day-old chicks are placed under each unit. These lights operate continuously during the brooding period. Consequently, they eat and drink more and, therefore, increase their weight. This comparatively new type of brooder also makes it possible for the operator to see

by
Grace J. Carter
News Editor



the chicks at all times. Thus, it is easier to feed, water and care for them.

This method of brooding, *Hydro News* was advised, is attracting wide interest, due to the fact that it facilitates better management with less labor, which offsets its higher operating cost. It is important, however, that adequate wiring be installed and inspected before this equipment is placed in service, it was pointed out. Factory assembled units or fixtures for this purpose are not as yet readily available. The experimental units illustrated were constructed locally and had to be submitted for special inspection approval.

It is interesting to note that infra-red lamps are also being used to successfully raise turkeys. Heat lamps have also been used for lamb and pig-brooders, and result in substantial decreases in mortality. Formerly, the mortality rate was comparatively high as a result of the young pigs being chilled or trampled by the mother. With the use of infra-red lamps it is possible to separate the young from the sow and keep them warm and healthy under the rays of the lights.



PROGRESS of some of the inmates is checked by—left to right—Roy Galway, Hydro Farm Service Adviser, West Central Region; R. O. Biggs, owner of the farm, and C. A. West, Manager of the Dundas Rural Operating Area. Adjustable fixtures for the infra-red lights enable them to be raised as chicks grow.



FOURTEEN WEEKS after they first saw the "infra-red light of day" the birds reach the last stage of their life. Twenty minutes travel on a conveyor belt, during which they undergo various processes, and they are ready for market and the Sunday dinner table.

NEW ROAD *for the* IRO



WORK TRAIN ON A SECTION OF THE RE-LOCATED LINE. MAIN DAM OF OTTO HOLDEN PROJECT IN THE BACKGROUND.

SEATED in the construction office of the Otto Holden Generating Station project near Mattawa, we could hear the measured beat of the pump-crete machine forcing concrete to the foundations of the great turbines being installed deep in the powerhouse sub-structure.

We were conscious, too, of a rhythmic vibration such as one feels aboard an ocean liner in good weather, when, with engines full-speed-ahead, the captain is striving for a record crossing.

The engineer looked up from a profile he had been studying.

"That's our clock," he told us. "We have to time our activities by it."

Formerly engaged in railway construction with a prominent Western Canada contractor and a Major with Canadian railway troops in the first World War, H. J. MacCrimmon has been supervising, for the Commission, the rebuilding of a 38-mile portion of the Canadian Pacific Railway on the Quebec side of the Ottawa River from Mattawa to Timiskaming. The original line was located along the winding shoreline of the Ottawa River. From a few miles north of Mattawa to a mile or so from the Grimmer yards, just south of Timiskaming, it will be submerged in the waters required to provide the headpond for the Commission's new 257,000-horsepower development which is scheduled for initial service this fall.

by
Harry M. Blake
Hydro News

"They're right on time with this development," murmured Mr. MacCrimmon, rising and looking out of the window. "Except for the filling-in of the diversion sluiceways, they've practically completed the dam. Now they are working on the foundation for all eight generator units."

By the middle of August they were about ready to start filling the headpond, he said. That job would take about four months to complete, but the water would be over the old railway near the dam in September, Mr. MacCrimmon told us.

He came back to his desk and, picking up the profile again, studied it intently. "We shall have to have the new line ready for traffic by September. Then, there will be the rails on the old line to pick up. You can't waste steel these days. . . . The salvage crews will start near the dam and work northward as the river rises. . . . It will be a nice timing job, but they'll do it all right."

Buried in the profile, he had been speaking as if half to himself. And now

HORSE



Hydro completes 38-mile portion of C. P. R. transcontinental line between Mattawa and Timiskaming

he turned to us.

"You asked me if there were any special features associated with the building of this railway. Well, in proportion to its size, this relocation has been about as heavy a railway construction job as has ever been undertaken anywhere in Eastern Canada."

We said we had heard that the Mattawa-Timiskaming relocation compared with sections of the C.P.R. along the north shore of Lake Superior. Built into the flanks of towering hills, we supposed there must be a good many tunnels.

Mr. MacCrimmon smiled indulgently at that idea. There were no tunnels. He went on to explain that, in modern

AFTER BLASTING, powerful shovels go to work in the rock-cuts, cleaning up and grading in preparation for the track-laying operations. Total rock excavation for new line is expected to exceed 700,000 cubic yds.



THIS GRACEFUL CURVE EMPHASIZES MANY OF THE BEAUTY SPOTS ON THE NEW LINE. OLD ROUTE IS ALSO VISIBLE IN THIS PHOTO.

railway construction, tunnels were avoided wherever possible. Picturesque, no doubt, from the passenger's point of view, they were a veritable *bête noire* to railroad men. Rock cuts had, however, featured the relocation. There were a very large number of these, varying in depth from 12 to 67 feet, and they had entailed a tremendous amount of excavation. In many places, too, the fill-ins, required to provide a safe and sound foundation for the railway, had been exceptionally heavy.

Heavy Construction

The tremendous amount of work involved in the relocation was further emphasized by D. G. Maxwell, Mr. MacCrimmon's assistant, who conducted us on a tour of the new line. Mr. Maxwell had been in Labrador, where a railway is being built from Seven Islands station on the lower reaches of the St. Lawrence to the newly-discovered iron ore fields. It was his considered opinion that, in no section of that 340-mile Labrador line, traversing rough country, would there be heavier construction than on the 38 miles of line included in the Timiskaming relocation.

Skilfully-Engineered Line

Because of the natural fall in elevation between Timiskaming and Mattawa, the new line has been constructed with a maximum grade of nine-tenths in a northerly direction and a seven-tenths maximum grade southbound. It was pointed out that the heavier traffic southbound, including raw and partly-manufactured materials from paper mills and other industries in the Timiskaming district, is favored by this differential in grades.

The completed relocation begins at a point some three miles downstream from the Otto Holden Development and rises to rolling country well above the present river levels midway in its length. It rejoins the existing railway at the southerly outskirts of the town of Timiskaming.

The Commission has the responsibility of handing over the new line in good shape to the Canadian Pacific Railway, and it is interesting to note that, apart from an overall supervision of the work of the contractors, Hydro's engineers have had their own crews engaged in actual construction. From Mile 0 to Mile 8 and from Mile 12 to Mile 16, Hydro men were on the job.

"That's because of the tight schedules under which we have had to operate," explained Mr. Maxwell. "Our contractors—the Therrien Company Limited and Peacock and McQuigge Limited—have been doing a grand job in carving a line out of granite-hard rock along a right-of-way which necessarily has had to "jump" streams and creeks tributary to the Ottawa. Little imagination is required to visualize what has been accomplished in sheer, hard labor."

Accompanied by Mr. Maxwell, we crossed an access bridge which parallels the main dam of the new project and reached the Quebec side of the river, where the permanent sluiceways to handle any excess river flow are located. A

short climb and we reached a ballasted section of the new railway where a railway speeder awaited us. We bumped it over the ties on to the rails and set off southward to Mile Zero where the relocation joins the old line.

It was about two miles to the junction, where sidings for the handling of construction material are located. We agreed with our conductor that it had been a pretty smooth ride. Mr. Maxwell assured us that it would be a still smoother roadbed with the second lift of the ballast in place, and that it would be like that all the way to the Grimmer yards at Timiskaming.

We returned to our starting point opposite the Otto Holden G.S., and Mr. Maxwell did a little rapid calculating with respect to the work trains we were likely to encounter as we proceeded northward on our tour. Traffic movements on the track ahead were, however, rather uncertain. We were instructed to keep a sharp lookout for any trains operating from the opposite direction.

Our first encounter was a long ballast train. It was being loaded at the ballast pit near one of the new station locations.

"That's what usually happens," explained our engineer. "We may be here for an hour, but we can't hold up the work."

We took the speeder off the rails. Mr. Maxwell and I lighted our pipes and settled down for a spell of patient waiting, while the Commission's photographer, climbing to venturesome heights, "shot" the sweep of sunlit river downstream to where the Otto Holden project provided an impressive background.

Finally all the ballast was unloaded and the train moved on past us to pick up another load. There were 22 cars.

While we were waiting, I had learned from Mr. Maxwell that the total amount of ballast required for the new line was estimated at 180,000 cubic yards. The total rock excavation was expected to exceed 700,000 cubic yards and the earth excavation was estimated at 2,100,000 cubic yards. The grand total of excavated material handled in construction adds up, therefore, to 2,980,000 cubic yards—an average of over 78,000 cubic yards per mile.

Taking off again, we passed over two steel bridges, with concrete abutments, spanning Coulton and Snake Creeks, and finally came to the big Bangs Creek double culvert. This structure, built of reinforced concrete, provides two adjoining water passages, each of which is 10 feet by 14 feet, with a total length of 100 feet.

Beginning at Bangs Creek and extending for about two miles is the biggest embankment of the relocation. It contains 525,000 cubic yards of material and has a maximum height of 78 feet.

Another work train was busy at Bangs

"HANDING-OVER" CEREMONY

IN the October issue, *Hydro News* will record the formal "handing-over" ceremony which commemorated completion of the relocated section of railway line.

This event, in which Chairman Robert H. Saunders and other representatives of the Commission and officials of the Canadian Pacific Railway participated, marked a significant milestone in construction at Hydro's Otto Holden development. This large Ottawa River project is scheduled for initial service later this year.

TEMPORARY OPENING IN THE NEW MAIN DAM HAS PERMITTED TRAFFIC OVER THE OLD ROUTE UNTIL LINE RE-LOCATION WAS COMPLETED.



CREW OF THERRIEN CONSTRUCTION EMPLOYEES LAYING 100-POUND STEEL RAILS ALONG A SECTION OF THE NEW 38-MILE LINE.



Creek. Anyway, it was a good place to knock off for lunch, as near at hand was Hydro Residence No. 2, located near waters swarming with trout and pickerel.

There are five Hydro camps on the relocation. They are headquarters for the five supervisory Hydro engineers who work in close association with M. L. Sproule and Grant Campbell, respectively Superintendents for the Therrien Construction Company Limited and Peacock and McQuigge Limited.

Following luncheon we were taken to the crest of the relocation where Hydro contractors were faced with one of their biggest jobs. At Mile 17 a swamp was encountered. It presented a special problem, as its brackish waters rose to a height of nine feet above the proposed grade level.

Most people, we fancy, are apt to associate a swamp with low-lying land. Swamps are not, however, an infrequent feature of high land when water is imprisoned by ridges and hills and cannot

BANGS CREEK CULVERT is an impressive reinforced concrete structure, incorporating two adjoining water passages. Crossing superimposed embankment, work train is hauling equipment for track-laying operations.

find a ready outlet.

There was nothing to do but drain the entire swamp and provide a suitable embankment. First of all, the contractors had to excavate an outlet to drain away the imprisoned water. Then, from the swamp itself, they had to excavate about 75,000 cubic yards of muck and earth. When this task was completed, still another remained—the filling-in for the foundation of the railway. This job alone required some 75,000 cubic yards of material. The work was begun in June, 1950, and completed last December. It is regarded as an especially noteworthy achievement.

We stopped to watch the scaling operations in one of the deep rock cuts after blasting operations had been carried out. Men were lowering themselves down the steep slopes with ropes, like Alpine climbers. When they reached a jutting fragment that looked as if it might break away, they settled themselves in their saddles and went to work with their steel bars on the job of dislodging it. Some of the rock we saw dislodged must have weighed several tons. The boulders were quickly cleaned up by the mucking machines working to and fro as the scaling proceeded.

Beauchene Bridge

At the time of our visit, rail had not been laid from the south end all the way to the Beauchene Bridge, and we had to approach this fine structure from the Timiskaming side.

From the north, the relocated railway reaches the bridge over a fill-in 91 feet high and containing 126,000 cubic yards of material.

The bridge rises to a height of 100 feet above the Beauchene river. Seen from below, against a cloudless sky, its three tapered steel towers, rising to a height of 68 feet, 5 inches above the reinforced concrete pedestals, impart a sort of soaring beauty. At their base the towers are 34 feet wide, and narrowing gracefully as they rise, they support a floor system 13 feet wide which will carry the single-track railway.

The towers for this beautifully-proportioned structure were fabricated at Lachine, Quebec, by the Dominion Bridge Company.

All the concrete foundation work was carried out by the Therrien Construction Company Limited and involved a very thorough survey of the ground and special adaptations to local conditions. The abutments are 70 feet deep, and on

(Continued on page 32)



LOOKING SOUTH across the Beauchene Bridge during construction. It is a beautifully-proportioned, viaduct-type structure and its steel towers are supported by concrete pedestals.



"PETE" JOHNSON, a superintendent for Peacock and McQuigge Ltd., discusses a construction problem with Hydro's Asst. Supervisor D. G. Maxwell, right, and Resident Engineer Bob Coutts.



Photo-news

First Meeting—At their inaugural meeting recently, members of the new Ontario Hydro-Electric Advisory Council elected John P. Maher, a prominent Toronto industrialist as their Chairman and had the opportunity of meeting personally several Commission representatives shown in the above photo. This meeting, termed an "historic occasion" by Premier Leslie M. Frost, who greeted members of the new council earlier at Queen's Park, was addressed also by Hydro Chairman Robert H. Saunders, as well as Hon. George H. Challies, M.L.A., First Vice-Chairman and W. Ross Strike, K.C., Second Vice-Chairman. Declaring that appointment of the council would be of great benefit to both Ontario Hydro and the people of the province, Mr. Saunders assured members of the Commission's fullest co-operation.



Inspection Tour

DURING A recent two-day meeting, held to discuss technical problems involved in some of the newer applications of electricity to farm operation, Regional Rural Service Advisers and other Commission representatives were taken on a conducted tour of several farms in the vicinity of Toronto. The tour, arranged in co-operation with the Rural Electrification Committee of the C.E.M.A., included inspection of electrical equipment for fruit cold storage, as well as poultry and greenhouse equipment. The photo on the left shows members of the party inspecting an electrically-operated irrigation system at a Toronto district fruit farm.

Honor Sir Adam

"HISTORY has fully vindicated the remarkable foresight of Sir Adam Beck who waged a determined battle against relentless and selfish interests to provide cheap and abundant power."

This tribute from Ontario Hydro Chairman Robert H. Saunders was one of many paid to the "Father of Hydro" during a brief ceremony at the foot of the Beck Memorial on University Avenue, Toronto, on the 26th anniversary of Sir Adam's death.

Paying honor to his memory, representatives of the City of Toronto, Toronto Hydro-Electric System, O.M.E.A. and Ontario Hydro laid wreaths on the monument.

In the picture at right are, left to right—Controller J. L. Shannon; Richard L. Hearn, General Manager and Chief Engineer, Ontario Hydro; Controller David Balfour; Loftus H. Reid, Chairman, Toronto Hydro; D. P. Cliff, O.M.E.A. President; Chairman Robert H. Saunders and Toronto Hydro Commissioner Bert Merson.





Fourth Unit—In view of rapidly-increasing demands for power in Southern Ontario, Hydro has authorized installation of a fourth unit at its J. Clark Keith Generating Station, Windsor. This recent photo of the new station, where two units are scheduled for operation later this year, shows construction progress to date. A third unit is expected to be in service by the fall of 1952. The fourth 60-cycle unit is scheduled for operation late in 1953 and will bring the station's total capacity to 264,000 kilowatts (355,000 hp). It will add a further $11,500,000 to the cost of the project, bringing the total expenditure to some $46,750,000.

Photo-news

Crown Peach Princesses—Little Doreen Smith, Peach Princess in the St. Catharines District Peach Festival, is crowned by Ontario Hydro Chairman Robert H. Saunders. This presentation was part of an evening ceremony which took place recently in the Maple Leaf Stadium, Toronto, following a civic welcome by the city to festival delegates. The other princesses, Beverley Shga (left) and Caroline West (right) were similarly honored when they were presented with crowns by the Hon. Charles Daley, Ontario Minister of Labor, and Harry P. Cavers, M.P., Lincoln County.



Preview Visitors

The British Section at the Canadian National Exhibition was officially opened by Sir Charles Colston, Chairman, Hoover Company of Great Britain, during a brief evening ceremony held in the Governments Building prior to opening day at the C.N.E. A preview of exhibits followed the ceremony during which the official party visited Ontario Hydro's model of the proposed St. Lawrence Seaway and Power Project. Sir Charles and Lady Colston (centre), with Tom Harrington (left), Board of Trade of Toronto, are pictured having details of the model explained to them by Ronald Cooksley, Ontario Hydro.

Canada's Press Favors The Seaway

From Coast to Coast, National Daily Newspapers Mirror Popular Opinion on St. Lawrence Project

Montreal Gazette

THERE is an ever more pressing need for early initiation of seaway power developments on the river, both on the international section and at Montreal, to meet prospective demand for extra power in Ontario and Quebec a few years from now. The cost of such development would be largely absorbed by Ontario and the phase at Montreal would be self-supporting from sale of the power.

The navigation aspect is less conclusive as to practical need, economic justification and ability to be self-liquidating. However, the opposition to it which was once centered in Montreal has largely abated. This was illustrated in May of last year, when the then president of the Board of Trade, Mr. L. W. Haslett, declared it to be "the hope of this board that before many months elapse" the joint seaway scheme would go ahead.

Whatever is ultimately decided as to a Canadian-controlled seaway wholly through Canadian waters, Canada should be left clear as to just where it stands and whether it is free to go ahead on its own account if it so desires.

Toronto Globe and Mail

Out of Washington comes good news for every Canadian. The public works committee of the House of Representatives has decisively turned down proposals for United States participation in the St. Lawrence Seaway project. What this means is that Canada is now free — legally, morally and in every other way — to go ahead with the project herself.

Up until quite recently, the committee's action would have dismayed Canadians. The thought that U.S. participation wasn't really necessary, the thought that Canada might do as well (and maybe better) without it, scarcely entered their heads. But that belongs to the past. Today, Canadians know that they have the wealth, the skill, and, above all, the faith, to undertake this great task on their own.

Now that the light, so long yellow, has turned to green, we must lose no time.

Fort William Times-Journal

Providing that an all-Canadian construction would not cripple the country financially, there is much to be said in its favor. From the standpoint of the country's urgent need of additional electrical energy, the St. Lawrence deepening would be justified. Furthermore, if this country made a start on the undertaking, that act alone would swing popular opinion in the United States in favor of a joint undertaking, even against the powerful lobby which has been set up against it.

Winnipeg Tribune

The cost of an all-Canadian Seaway is estimated at between 500 and 600 million dollars. This is a huge sum to spend in the next few years especially in view of the large defence program commitments. Fortunately the Seaway project would be a self-liquidating one for the Lakes-to-Sea channel would be largely used by American and other foreign shipping which would have to pay tolls . . .

Missing The Boat?



— TORONTO TELEGRAM

Ottawa spokesmen say that Canada is not bound by any agreements as to what tolls she might charge on the Seaway with the exception of an agreement not to "discriminate" against U.S. shipping. While Canadians would have no desire to be unfair to a neighbor who needs the Seaway as much, if not more, than we do, the feeling must be general that if we undertake the job alone tolls should be steep enough to refund the bill of costs in fairly short order.

Saskatoon Star-Phoenix

It would be helpful if the United States undertook part of the capital cost. But we do not think it is necessary. There are, in fact, arguments in favor of Canadian construction and management on its own account. If the record of the United States in arriving at a decision about construction is any indication of the arguments between special interests that would arise in the management of the completed waterway, it might be just as well not to be tied too closely to the Americans. We should wait no longer on the United States merely for the sake of American participation. If, in the judgment of the government, the seaway will promote Canadian interest and if we can do the job now, we should begin it soon. We have waited too long already to get the last part of the job done. Let us get ahead with the seaway and, if the United States wishes to take part later, then we can discuss a new partnership arrangement.

Calgary Herald

It is time this country stepped out on its own. Far too often are we dependent on the benevolence of rich Uncle Sam. If Uncle won't pay the bill, Canada usually forgets about the matter and waits patiently until Uncle condescends to help out. Well, this country has waited half a century for Uncle Sam to make up his mind about this valuable waterway into the heart of the continent. And nothing has yet been accomplished.

The Canadian government which has favored this project for many

(Continued on page 31)

In the World of Power

FROM many different countries this month come reports of increased generating facilities and plans for new power stations, to meet what a British engineer has called "the quite insatiable demand" of the world.

FRANCE

Hydro-Electric power production has been increased by about three billion kilowatthours in France during the past three years, the Director of Electricité de France said in a recent speech. However, this is not up to the Monnet Plan's objective, mainly as a result of steel shortages, he pointed out.

Power consumption is growing rapidly, the director reported. In the first three months this year, demands showed an increase of more than two billion kwhrs. over the same period of 1950. — *The Engineer,* London.

NEW ZEALAND

New Zealand's Maraetai hydro scheme will probably not be ready in time to avert next winter's expected power shortages, according to officials of the Auckland Electric Power Board who inspected the site recently.

A recent month-long strike at the North Island plant, and a prospective cement shortage, are blamed for the delay. — *Electrical Times,* London.



NEW RICHES FOR ALBERTA — The largest earthfill dam in Canada stretches across the St. Mary River, southwest of Lethbridge. The $6,500,000 clay-and-gravel structure stores water for the St. Mary-Milk River Irrigation Project. When the project is completed, 10 years hence, an estimated $40,000,000 worth of productive wealth will flow, like the water, across Southern Alberta. More than 3,000 dust-bowl farmers will have new homes on irrigated land where crop failure is unlikely. The Rocky Mountains are visible in the background.

SCOTLAND

The North of Scotland Hydro-Electric Board is now serving 55,000 customers, approximately one-third of the potential customers in the area served by the board. These customers have been connected to lines since the board was first established in 1948.

This fact was reported by Chairman Thomas Johnston at the recent opening of a new $750,000 diesel generating station at Kirkwall, Orkney Islands. The station will eventually supply all of the Orkneys with power. — *The Times,* London.

ICELAND

With a loan from the International Bank for Reconstruction and Development of $2,450,000 in European currencies, Iceland will soon draw power from two rivers to help her industry.

One project, on the Sog River, will serve the area around Reykjavik, the island's capital. Approximately 50 percent of the population and 80 percent of the industry are concentrated in this area Eugene R. Black, President of the bank, pointed out in announcing the loan.

SOUTH AFRICA



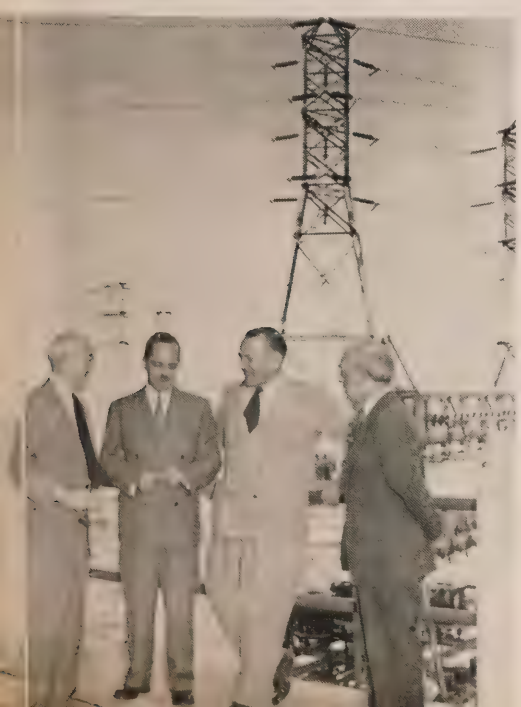
Preliminary survey work has been completed on a hydro-electric scheme along the Mooi River in northern Natal, according to South African Lands Minister J. G. Strydom. The project provides for building two dams and calls for an expenditure of approximately $6,000,000. It is anticipated that several new industries will be established in the area, and will use labor from nearby native reserves. A large volume of water will also be made available for irrigation — *South Africa,* London.



AERIAL VIEW of the Beauharnois development. The new section (right) will contain twelve 55,000-horsepower units, which will increase the plant's total capacity to more than 1,400,000 horsepower. Addition of a third section will give plant a capacity exceeding 2,000,000 horsepower.

BEAUHARNOIS' PLANT NO. 2

ON August 25, Hon. Maurice Duplessis, Premier of the Province of Quebec, stepped forward and turned a small switch in the new Plant No. 2 of Hydro-Quebec's large Beauharnois development. This official act set in operation the first of twelve 55,000-horsepower generators destined to increase total output of the plant to more than 1,400,000 horsepower. Spanning the Beauharnois Canal—a diversion of the St. Lawrence River—near the town whose name it bears, the massive generating station supplies power to Montreal and big industries adjacent to it, while Ontario also benefits from its output. Representing Ontario Hydro at the official ceremony, were Hon. George H. Challies, M.L.A., First Vice-Chairman; Richard L. Hearn, General Manager and Chief Engineer; Dr. Otto Holden, Assistant General Manager—Engineering and A. W. Manby, Assistant General Manager—Admininstration. Also attending were several members of Quebec's Provincial Cabinet and members of the Legislative Council, while the City of Montreal was represented by His Worship, Mayor Camillien Houde; J. O. Asselin, Chairman of the Executive Committee of the City of Montreal; Louis A. Lapointe, Director of Services, and J. A. Duperron, Chairman of the newly-formed Montreal Transport Commission.



LEFT: Power topics were no doubt the main subject of conversation among this group pictured after the opening cermony. Left to right —C. C. Parkes, Assistant to the President, Hydro-Quebec; Raymond Latreille, Commissioner, Hydro-Quebec; A. W. Manby, Assistant General Manager—Administration, Ontario Hydro, and Rene Dupuis, Commissioner, Hydro-Quebec, in charge of the Beauharnois plant.

★

RIGHT: Interior view of the Beauharnois Generating Station from the Section No. 2 end. The powerhouse addition features a new type of water-cooled generator, in the foreground, which is installed at floor level, as compared with the old type visible in the background.



U.S.A.



A 65,000-horsepower pump, reported to be the largest water pump in the world, has started supplying water to the Columbia Basin irrigation project in the State of Washington, U.S.A., which irrigates 1,028,000 acres.

The pump, powered by electricity from Grand Coulee Dam, will draw water from a 150-mile backwater of the Columbia River and hoist it 280 feet at the rate of 720,000 gallons a minute. It is the first of 12 such pumps to be installed to supply the irrigation project. -- *F.P.C. Daily News Digest,* Washington.

First power from the redevelopment of the resources of the Niagara River by the United States will not be available until five years after the start of construction work, Congress was informed recently by Col. W. E. Potter, Assistant Chief of Special Projects of the U.S. Army Engineer Corps.

The Corps has asked for $450,000 to carry on preliminary operations. Present plans call for an increase in capacity at the falls from the present 440,000 kilowatts to an estimated 1,572,000 kw. -- *F.P.C. Daily News Digest,* Washington.

SWEDEN

Power consumption in Sweden last year amounted to 18,300,000,000 kilowatthours — equivalent to 2,600 kwhrs. per person. Completion of hydro projects, now under construction, should bring the total output up to 25 billion kwhrs. by 1954.

According to reports, there are now only about 50,000 rural homes — about five percent of the total number of this type of residence — still without electricity. — *Electrical Times,* London.

ENGLAND

The tides of the Severn estuary in southwest Britain could be harnessed to provide about two billion kilowatthours each year, according to Professor Jack Allen of Aberdeen University's Engineering Department. Tidal range is about 40 feet, he said.

Capacity of this project would be six or seven times greater than the output of the present largest hydro-development in the British Isles — the Tummel-Garry project in Scotland — Professor Allen stated. — *Evening Express,* Aberdeen.

TASMANIA

Plans to develop hydro-electric power in the Huon Valley of Tasmania have been announced by State Premier Cosgrove.

Surveyors have, for some months, been studying several possible sites for the project, which will have an average operating capacity of 30,000 horsepower and will be linked with the island's overall power network. — *Electrical Times,* London.

Present and prospective power output and demand will be discussed soon by a select committee appointed recently by Tasmania's House of Assembly.

The investigation was prompted by the present power shortage and by comments on the rationing system, which restricts supply to those customers already under contract. — *Electrical Times,* London.

ITALY

Rome will be supplied with 70 million kilowatthours yearly by a new hydro-electric station at Castel Giubileo, seven miles north of Italy's capital. President Einaudi opened the station recently.

Water stored by the new development — the first power station on the Tiber River — will be used to irrigate 100,000 acres of farmland. — *The Times,* London.

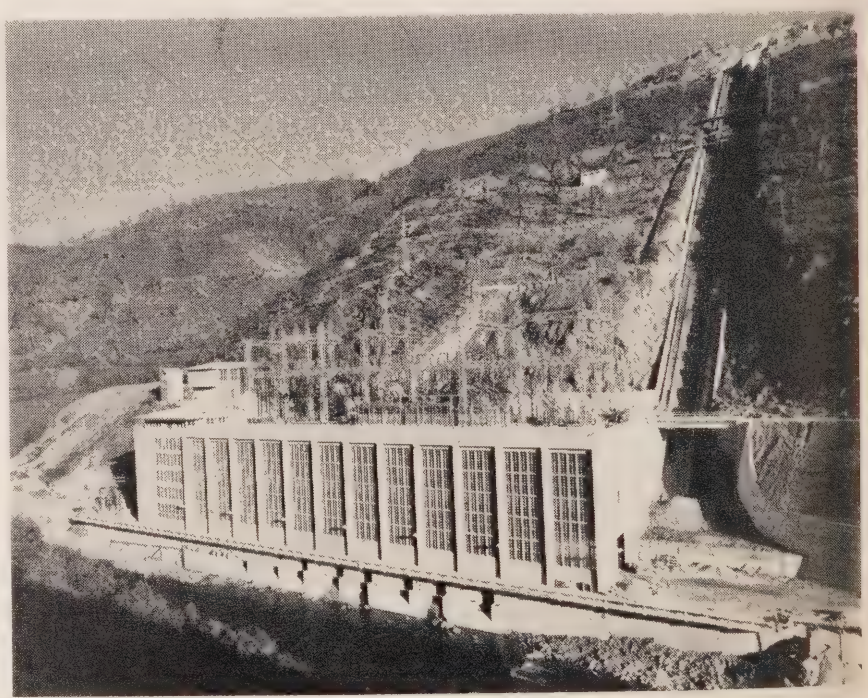
ALASKA

U.S. Secretary of the Interior, Oscar Chapman has called for joint U.S.-Canadian development of the far Northwest —Alaska, the Yukon and Northern British Columbia. Alaska alone, with financial aid from the U.S., could produce 50 million kilowatthours annually, Chapman states. His report was submitted with the approval of President Truman, but without recommendations for specific expenditures or legislative action.

CANADA

British Columbia Lands Minister E. T. Kenney has opened the B.C. Power Commission's $6,700,000 Whatshan Lake project, which will supply 33,000 horsepower to the Okanagan Valley. Eventually it will produce 66,000 hp.

Water from Whatshan Lake was diverted through a two-and-a-half-mile tunnel under a mountain, to help form a head of 710 feet for the turbines in the powerhouse on the shore of Lower Arrow Lake.



GENERAL VIEW of the Vila Nova Power Station, Portugal, where the first of three generating units was placed in service recently. Situated on the banks of the Cavado River, 60 miles northeast of Oporto, the station makes use of another river, the Rabagao, which flows at a higher level (1,500 feet) on the other side of a mountain. A tunnel carries water through the mountain to the plant screenhouse, providing a natural head of 1,300 feet. The new station is being equipped with 39,000-horsepower water turbines, and 32,000 kva generators.





AFTER HIS PLUNGE in the Rideau Canal, Allan Moses, right, immediately proceeded to relegate the lamp he is holding to an upper shelf while his friend, Fred Sankey, smilingly compared it with the gleaming electric model. The oil lamp came to Canada about 120 years ago with Mr. Moses' grandfather. Both men hope the windlass they are cranking, right, will soon be an electrically-controlled operation

Wet Welcome

Rideau Canal Lockmaster Jumps, Fully Clothed, Into Water to Celebrate Advent of Hydro Power

by Hugh Quetton

Hydro News

WHEN Allan Moses, 59-year-old master of Hartwell Locks on the Rideau Canal says he'll do something, he does it.

So it was, recently, that Lockmaster Moses jumped, fully-clothed, into the canal to keep a promise he'd made when he was informed that he was to have Hydro power in his home in a short time.

For 23 years Mr. Moses has dreamed of having his home on Ottawa's southern outskirts, wired for electricity. Last year he moved a step closer to the realization of this dream when a new line was strung across the Canadian Government's Experimental Farm near Hartwell Locks.

Then, one morning a few weeks ago, a crew of Ottawa Hydro linemen arrived and informed the genial lockmaster:

"We'll have you connected this evening."

"You do and I'll jump in the canal," Mr. Moses said laughingly.

Recalling the incident for the benefit of *Hydro News,* he continued: "However, about five o'clock they came back, pushed the switch and the lights came on in the house."

Then he remembered his promise, but he didn't back down.

" 'Boys, I'm a man of my word, here I go!' and I jumped into the water with all my clothes on," he recounted.

His exploit was confirmed by Fred Sankey, canalman, who assists Mr. Moses.

"That's right," Mr. Sankey stated, "I ran over to help him out but there was no need. He was hauling himself out with the aid of an old chain. Of course, he can swim like a fish."

Pleased With Hydro

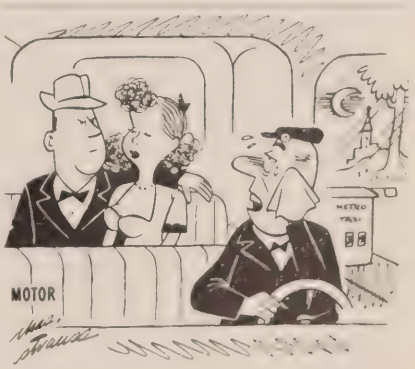
The Lockmaster and his English-born wife, at Hartwell since 1923, are pleased and proud to have Hydro in their home.

"We had a hard time reading with oil lamps," Mrs. Moses told during our visit, "we've both had to wear reading glasses for several years now."

Her husband is hopeful that it will be possible to have the lock machinery operated by electricity in the near future. Some of this equipment was installed when the locks were built in 1832, under direction of Colonel John By, who designed and supervised construction of the whole Rideau Canal. Hartwell Locks, at that time, was used as a military fort. The walls of the Moses' government-owned home, for example, are two feet thick.

"We could use a motor on the windlasses, I think," Mr. Moses pointed out wistfully during our visit to the historic locks.

"A few years ago, they installed electrically-operated motors at Bronson Bridge, 1,400 yards down the canal. Now, when the bridge-tender sees a boat coming, he walks over to the switch and presses it with one finger. He doesn't even have to grunt!"



"Couldn't we drive someplace besides around the park? My hay fever is killing me."

— *Reprinted from Motor*



Kitchener-Waterloo Industries To Have 60-Cycle Power

DURING October 60-cycle power will be made available to several large Kitchener and Waterloo industries.

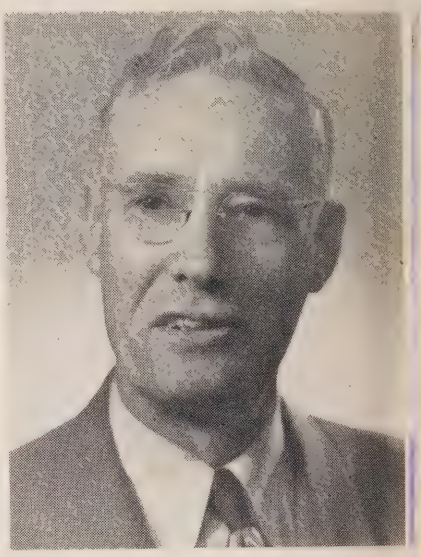
Crews of the Kitchener and Waterloo Public Utilities Commission are engaged, at present, in building 60-cycle high tension facilities to serve more than 20 major industries in the twin cities. In addition, 60-cycle power will be made available for a new housing subdivision containing some 800 units in the south-east section of Kitchener.

In supplying 60-cycle power to these power users, the Commission is following a plan announced several months ago of picking up new industrial loads at 60 rather than at 25 cycles. The plan is designed to check the growth of 25-cycle loads which would otherwise have to be changed over at a later date.

Where practicable and economical, the Commission on occasions authorizes industries to do their own equipment changeover work in existing plants through local contractors. The new power will come from Ontario Hydro's main network of 60-cycle plants, including the giant Des Joachims Generating Station on the Ottawa River.



SOME 45 MEMBERS of the Niagara Region, A.M.E.U., recently paid a visit to Windsor where they toured the Commission's J. Clark Keith Generating Station. The visitors were also guests at a banquet. Above, left to right, are R. L. Hearn, General Manager and Chief Engineer, J. Clark Keith, General Manager, Windsor U.C., M. W. Rogers, Manager, Carleton Place P.U.C. and A.M.E.U. President, with J. E. Teckoe Jr., Assistant General Manager, Windsor U.C.



C. E. KIRKBY

New Manager At Woodstock

C. E. KIRKBY has been appointed Manager at Woodstock Public Utilities Commission, succeeding J. R. Sullivan who died recently.

A professional engineer, Mr. Kirkby was associated with the Strathroy P.U.C. from 1914 to 1916. He served Brantford Township Commission as Superintendent until 1929, when he was appointed Manager at Stamford Township P.U.C. He remained in this position until assuming his new duties at Woodstock on August 1 this year.

Born and educated in Brantford, Mr Kirkby is a widower. He has three sons and two daughters—all of whom are married. He is also a proud "Grandpa" to seven grandchildren—four girls and three boys.

Active in the Rotary Club, Masonic Lodge and Orange Order, Mr. Kirkby is a member of the United Church. His hobbies include golf, stamp collecting gardening and fishing.

Mobile Units

RADIO units have been installed in nine trucks and cars of the St. Catharines Public Utilities Commission.

Cost of the units—about $9,000—is expected to be offset by savings to local industries, which will receive faster service in case of power trouble.

An estimated 25 percent saving in vehicle mileage would also be effected, P.U.C. Manager Ray Pfaff predicted recently, as the new system would assist in locating men and trucks quickly in emergencies.

Calls can be made from truck to truck or to the master radio station, set up at an Ontario Hydro transformer station in the city. Trouble calls will be handled by this station during the night.

MORE WATER FOR ST. THOMAS

A $17,800 tender has been accepted by St. Thomas Public Utilities Commission for supplying and installing triple stop-log equipment at the North Yarmouth storage dam.

Powered by a 20-horsepower gasoline engine, with a winch operating on steel rails, the equipment will be installed to raise the dam level and subsequently to impound about 40 percent more water from Kettle Creek.

Raising the level of the storage dam is being undertaken as a means of protecting the city's water requirements.

BADGES FOR P.U.C. MEN

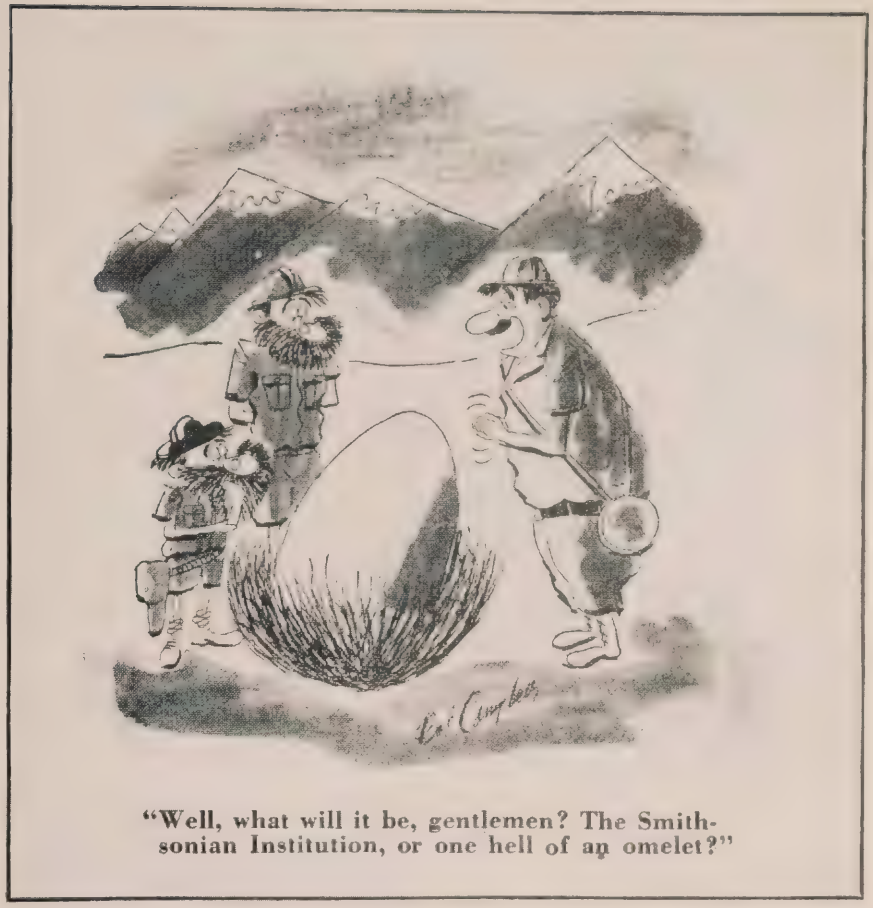
Tecumseh Public Utilities Commitee has authorized issue of identification badges to all employees.

In approving issue of the badges, it was pointed out that the commission had recently taken on several new employees who are not known to local customers. The badges would also assist in identifying commission representatives when they called at homes of many new residents.

NEW P.U.C. BUILDING

Alexandria Public Utilities Commission has awarded a contract for a new building. Consisting of offices, with garage and store facilities, it will measure 40 feet by 50 feet.

The one-and-a-half storey building will house the electric and water departments. It is anticipated that the new structure will be completed by mid-November.



"Well, what will it be, gentlemen? The Smithsonian Institution, or one hell of an omelet?"

—Reprinted From Cosmopolitan

O.M.E.A. PRESIDENT HEADS DUNDAS P.U.C.

D. P. CLIFF, President of the O.M.E.A., has been elected Chairman of the Dundas Public Utilities. He succeeds the late Robert Manning, who died recently.

Mr. Cliff, recently chosen a member of the Advisory Council, Ontario Hydro, has been at various times, Mayor, Reeve, Deputy-Reeve and councillor at Dundas; Warden of Wentworth County; and President of Dundas Historical Society.

TECUMSEH SURPLUS

Tecumseh Public Utilities Commission's hydro division has reported an estimated surplus of $6,015 for the first six months this year.

Assets amounted to $124,802 as of June 1. Revenues up to and including June were as follows: Domestic lighting, $16,262; commercial lighting, $5,631; power lighting, $4,035; street lighting, $878; miscellaneous revenue, $109; interest and fixed charges, $58.

Among the larger expenditures were power purchased, $13,497; office expenses, $1,417; depreciation (estimated) $1,488.

SPENDING $80,000

Kingston Public Utilities Commission will spend $80,000 out of available funds this year on extensions to their distribution system.

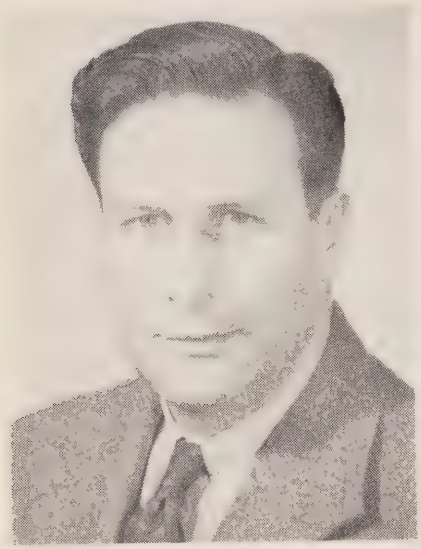
PRESS FAVORS THE SEAWAY

(Continued from page 25)

years should now go ahead with the scheme on its own. It will undoubtedly cost Canada a lot more money that way. But the millions spent would be worth it if only to prove that Canadians can take a chance on their own development, can do something without Uncle Sam's helping hand. And, of course, this 2,650-mile waterway will be of inestimable value to this nation. It will provide an inland route for shipping Labrador iron ore to the steel mills of the industrial heartland; it will provide cheaper transportation for Western grain, coal and oil; it will provide vast power resources for Eastern Canada; it will help our shipbuilding industry.

Alan Walker

By The Editor



FOR some, the sun of life sets very early—too early.

This is the thought uppermost in our mind as we record the sad news of the passing of Alan Walker, who died on August 27 following two months' illness.

It was our privilege to have known Alan for some 15 years both as a friend and as a photographer—and he was one of Canada's top-ranking cameramen.

Over a period of five or six years, before Hydro had its own staff photographers, Alan undertook many important picture assignments for Hydro News. Not only were his many remarkable photographs known to Hydro folk throughout Ontario but he, personally, made countless friends among the far-flung Hydro family.

We are not expressing any platitude when we say that his passing at such an early age—in his late forties—is indeed a very great loss to the photographic profession in Canada. With an almost uncanny ability to sense the kind of picture that made news, Alan Walker combined a whole-hearted enthusiasm that brought a ready response from the people facing his camera.

Alan's tall, well-built figure and his boyish smile will be remembered by all who met him. Wherever he went, he had a quiet but commanding presence. He was known to Royalty and to men who are in the forefront in government and business circles and he was known equally well to men who toil with their hands.

The almost countless floral tributes at Alan's funeral on August 30 from his late residence, 16 South Drive, Toronto, told an eloquent story—a story that words alone can never tell.

NEW ROAD FOR IRON HORSE

(Continued from page 21)

the south side of the river, they are supported by 36 piles.

After visiting the Grimmer yards, we found ourselves back at the site of the Otto Holden project. The pump-crete machine was thumping again and once again we were aware of that rhythmic vibration.

"All right, all right," muttered our friend. "Get on with it as fast as you like. We'll keep pace with you. We'll be ready for traffic by September."

HYDRO'S NEW HOSPITAL

(Continued from page 11)

F. S. Stowell, an ambulance driver, housekeeper and maintenance man are other key members of the staff.

Plans for the hospital were executed by Dr. R. W. I. Urquhart, Hydro's Medical Officer, and Dr. Grant, the Project Medical Officer, in conjunction with Hydro Architect, Kenneth H. Candy, M.R.A.I.C.

The building of the new medical centre was carried out by the Commission's Construction Division.

The attractive, frame structure was officially opened by Hydro Chairman Robert H. Saunders during a brief ceremony attended by a large group of members of the medical profession from the Greater Niagara area, as well as Welland and Lincoln Counties. In attendance also were Niagara Falls and Stamford Township municipal officials, officers of the Niagara Chamber of Commerce, and the Niagara Parks Commission, as well as other representatives of Ontario Hydro.



IN COMMON with many visitors to this year's C.N.E., General George C. Marshall, U.S. Secretary of Defence, manifested keen interest in the model of the proposed St. Lawrence Seaway and Power Project featured by Ontario Hydro in the Governments Building. In this photo, Chairman Robert H. Saunders is explaining features of the model to General Marshall who officially opened the 1951 "Ex." C.N.E. President R. C. Berkinshaw, extreme left, and Canadian Defence Minister Brooke Claxton, right, accompanied General Marshall during his visit.



Don't touch that Fallen Wire!

Despite all of Hydro's careful precautions, there are times when storms or unavoidable accidents cause electric wires to break down. When that happens, *don't touch that fallen wire!* Your very life may be at stake.

Keep curious children—and adults—away at all costs. Shock, severe burns and worse can result from touching such a wire.

If you discover an electric wire on the ground or hanging dangerously low, remember these three things:

1. Don't, under any circumstances, touch the wire.
2. Stay on guard and keep *everyone* away until help arrives.
3. Have someone notify the police and the nearest Hydro office *at once.*

Nothing has been overlooked to give you the best possible electrical service. But, should trouble occur, your co-operation in being careful and warning others may prevent injury or even loss of life.

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO


ON THE WANA

HYDRO News



How good the God of Harvest is . . . !

VOL. 38 OCTOBER, 1951 NUMBER 10

HYDRO News

VOLUME 38 OCTOBER, 1951 NUMBER 10

Published by

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 University Avenue, Toronto

"A Cottage" In Canada

STORIES of Canada's beauty and vastness, of her forests, streams and lakes, of her cities, towns and villages and, perhaps more especially, of the warm, spontaneous hospitality of the Canadian people were related to a little girl of 13 in the year 1939. She heard them from the lips of her parents following their memorable and historic tour of this country.

That "little girl"—Her Royal Highness Princess Elizabeth, now 25, accompanied by her husband, the Duke of Edinburgh, has come to Canada to see for herself. Her remarks to date leave no doubt in the minds of Canadians that the overwhelming welcome she and the Duke are receiving and what they are seeing in this self-governing democracy more than substantiate the stories she was told at the age of 13.

It is safe to assume that in the years to come—when they are a little older—Prince Charles and Princess Anne, the two children of Their Royal Highnesses, will, themselves, be hearing many stories about Canada and that they, too, will be coming to see for themselves.

It was both interesting and significant that Princess Elizabeth should have remarked that she hoped her children would not have to wait as long as she had before coming here. And that observation raises a question. Why should they have to wait at all?

In this favored land where "running up to the cottage" for a few weeks or even over weekends is very largely a part of the general pattern of life, it might be regarded as a happy and gracious gesture if each Province in turn were to set aside a vacation retreat or "cottage" for the use of our beloved King and Queen and the members of the Royal Family each year. Present-day air travel has brought the Mother Country and Canada very close together. This seems to suggest the possibility of Princess Elizabeth and her children and any other members of the British Royal House being able to "slip across to a cottage in Canada" at any time, even for a brief period of privacy and relaxation from the rigorous schedule of State duties.

After all, we should not expect that every visit of Royalty to Canada should be crowded with receptions, dinners and other ceremonies. There is a time and a place for traditional ceremonial. But, it would seem that the Royal Family might have greater opportunity to share more fully that freedom which is enjoyed by all people of the Commonwealth of Nations under the British Crown.

At this time Canadians welcome wholeheartedly Princess Elizabeth and the Duke of Edinburgh—and all members of the great Hydro Family in Ontario join in that welcome.

It is our hope that they may be able to return, in the not too distant future—perhaps to "a cottage in Canada."

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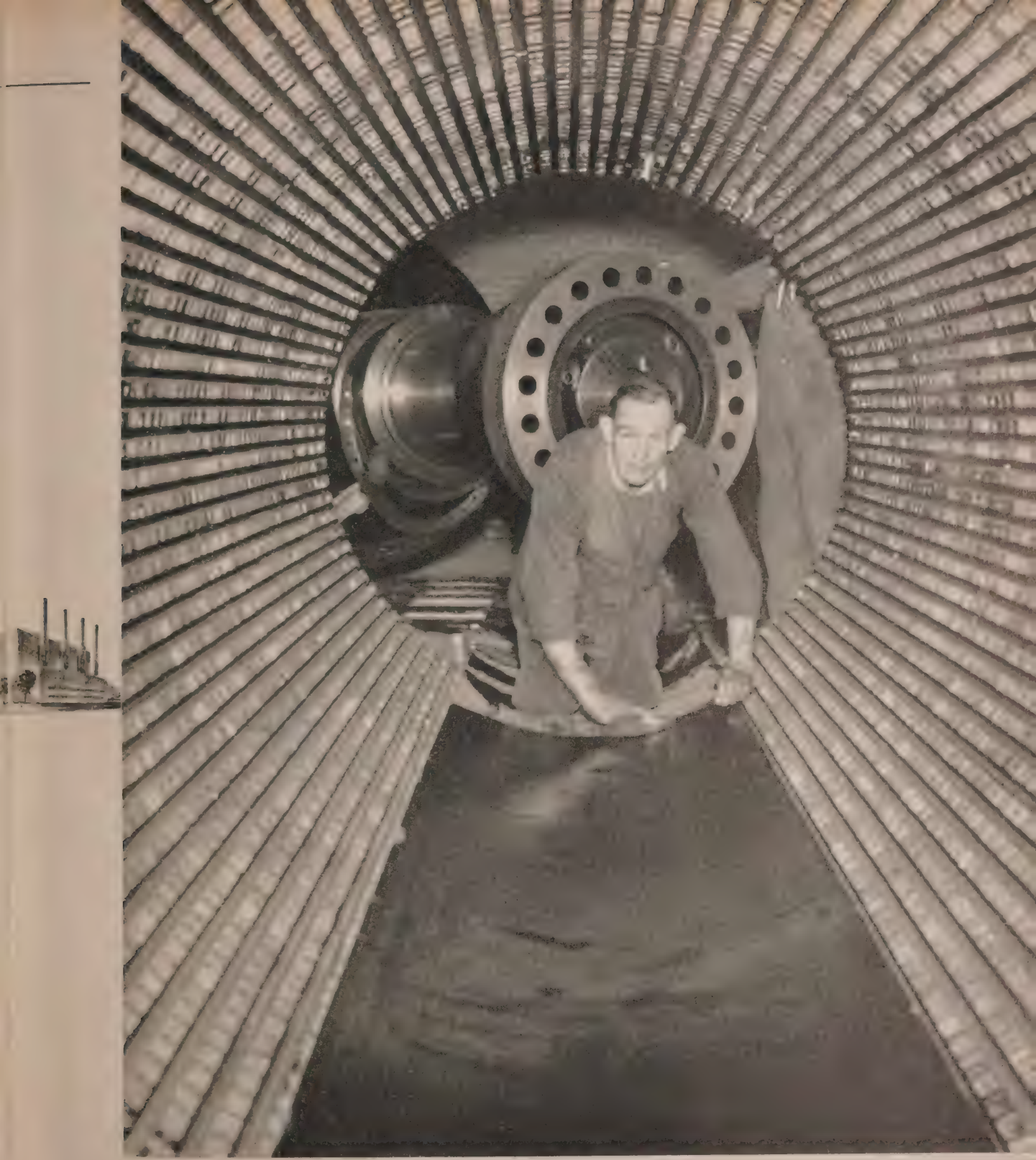
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COVER PHOTOS

THIS month's front cover photograph by Hydro Photographer Robert Armstrong immediately reminded us of those memorable lines from James Thomson's poem, "The Season Autumn," in which he advises us to "Think, Oh grateful think; How good the God of Harvest is to you." And in the same poetic mood we proudly direct the reader's attention to the back cover photo—also from the camera of Photographer Armstrong—which depicts the rugged grandeur of the Ottawa Valley.

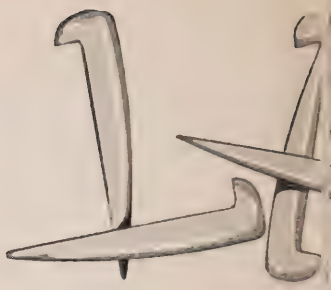
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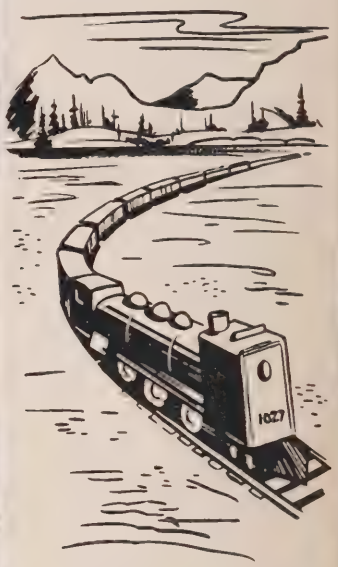


INSTALLATION OF HEAVY EQUIPMENT for the first 134,000-horsepower unit at Hydro's Richard L. Hearn Generating Station in Toronto provided the Commission's photographic staff with several opportunities for unique shots. "Staffer" Bob Armstrong was on hand with his camera to secure this unusual impression of the "bore" of the 157-ton stator as workmen prepared to place the large rotor in position.

DR. OTTO HOLDEN, the Commission's Assistant General Manager—Engineering, drives home the last spike on "Hydro's Railway." Shown here between Dr. Holden and Chairman Robert H. Saunders is G. N. Curley, C.P.R. General Manager—Eastern Region, who officially accepted the new line.









ONTARIO HYDRO and contractors' representatives posed beside locomotive before first scheduled train left Timiskaming for run down the new line to the Otto Holden Generating Station where formal "handing-over" ceremony took place. Sho here, left to right — T. G. Willows, H.E.P.C. Generation Dept.; David Forgan, Director of Construction; Major H. J. M Crimmon, Hydro's Supervisor of railway construction; F. M. Donegan, C.P.R. General Supt., North Bay; W. B. Crombie, Proj Manager, Otto Holden G.S.; J. R. Montague, Director of Engineering; James Therrien, President, Therrien Construction Compa Dr. Otto Holden and Mel. Sproule, Supt. Grading, Therrien Const. Company. Dinner in project cafeteria climaxed ceremo

ST SPIKE



NEW SECTION OF RAILWAY LINE IS VISIBLE IN THIS "HANDING-OVER" CEREMONY VIEW.

IT was one of those glorious late-summer days, — crisp and drenched in sunshine.

Locomotive 1057, its newly-painted black nose pointed out beyond the end of the C.P.R. station platform at Timiskaming, snorted in impatience.

It was a big day for Engineer Jack Lennox, Conductor Dave Shore, Ontario Hydro and the Canadian Pacific Railway. A "brand-new" railway line was to be handed over to the C.P.R. by Hydro in a special ceremony at the Commission's Otto Holden Development on the Ottawa River, 37 miles downstream from Timiskaming.

Finally the whistle bounced echoes off the surrounding hills. Hydro representatives, C.P.R. officials and newspapermen swung aboard and the first scheduled train to traverse the new line — a 37 mile diversion to permit raising of the water level above the Otto Holden project — rolled out of the Timiskaming yard.

Ahead lay the formalities, the congratu

(Continued on page 7)

District No. 2
O.M.E.A Convention

KINCARDINE'S BAND escorted delegates to evening banquet. W. M. MacDonald, Superintendent of Kincardine P.U.C. is a bass drummer in this band.





LEFT—Guest speaker at the evening banquet was Rev. P. B. Reid, Collingwood whose theme was "Bargains of Life." Above—Things were "looking up" when the photographer caught this trio waiting for luncheon. Group includes H. F. Bush, H. N. Harrison and A. H. Waites from Mimico P.U.C.

COMPLETE UNDERSTANDING

Chairman Saunders Stresses Federal—Provincial Accord On Question Of St. Lawrence





CONVENTION HOSTS, Kincardine P.U.C. members, left, include W. M. Macdonald, A. G. MacKay, Mayor "Joe" Chilvers, Sam. MacKenzie and Miss Mary McLennan, Secretary. Right—Al. Taylor, Toronto, centre, M. W. Downs, Meaford, right, urge brother delegate to accept cigar.



JRING the afternoon session over 40 lady delegates enjoyed a bus trip to arby "Inverhuron" where tea was served. This group represents distaff le of Kincardine P.U.C., including Mrs. Sam MacKenzie, Miss Lexie acDonald, Mrs. Joseph Chilvers, Mrs. L. B. Davey and Mrs. A. G. MacKay.

"WE ARE very hopeful that the Canadian Government will, in the near future, let the United States know that Canada will build the St. Lawrence Seaway and the application of the Ontario Hydro will go before the International Joint Commission."

This remark was one of the highlights of a recent address by Hydro Chairman Robert H. Saunders during a meeting of District No. 2 O.M.E.A. delegates at Kincardine.

Stressing the "complete understanding" which existed between Ontario, Ottawa and Ontario Hydro on the question, the Hydro Chairman declared that "low-cost electric power demands that the St. Lawrence go through."

No Rate Increase

Mr. Saunders also announced that "barring unforeseen circumstances, there will be no increase in the interim rate to the municipalities or in the rates to our rural customers for the years 1951 or 1952."

In discussing the matter of power rates, the speaker made an interesting comparison between the cost of electricity and other types of merchandise. Bituminous stove coal, for instance, now cost 200 percent more than in 1938. In Toronto, the price of bread had increased from

15 cents per loaf in 1938 to 23 cents this year — an advance of 53 percent, he pointed out. The overall increase in the price of food was 143 percent.

On the other hand, the cost of electricity had shown a marked decrease. Average domestic power costs had dropped 18.75 percent since 1938, while commercial rates were 25.31 percent below the 1938 figure. In rural Ontario, Hydro supplied power in 1950 at an average cost to the farmer of 1.847 cents per kilowatthour compared with 2.55 cents in 1940, a reduction of 27.57 percent.

The facts speak for themselves," Mr. Saunders declared, "and show clearly that we have and are distributing power at low cost in the face of tremendously increased costs of every other commodity."

Power Restrictions Unnecessary

Expressing the hope that the Commission would have its two new steam generating stations in operation on schedule despite material shortages, W. Ross Strike, K.C., Second Vice-Chairman of Ontario Hydro, also assured those attending the meeting that power restrictions would not be necessary during the coming winter months. A. W. Manby, Assistant General Manager — Administration, voiced similar assurance.

During the morning session, D. G. Ferguson, Manager of the Commission's Georgian Bay Region, presented an interesting resume of the operations and progress achieved in this particular part of Ontario.

Progress in the Georgian Bay Region was indicated by the increased use of electricity. Energy used, he pointed out, had increased by 10.8 percent in the past year.

C. E. Crease, Consumer Service Engineer for the Georgian Bay Region, also gave a short address during which he explained the "Clarkson-Gordon" functional method of costing power, supplementing his talk with tables and diagrams distributed among the audience.

Delegates manifested keen interest in the lively "question-and-answer" period. Responding to questions placed on the agenda prior to the meeting, Outario and municipal Hydro representatives provided helpful answers relating to various aspects of Hydro operations.

During the business session, a resolution on the question of making the joint annual O.M.E.A.-A.M.E.U. Convention a two-day rather than a three-day meeting received endorsation. The association also approved a further resolution urging that O.M.E.A.-A.M.E.U. representation on the Ontario Hydro-Electric Advisory Council be increased. The resolution requested that O.M.E.A. membership be raised to four, while three A.M.E.U. representatives would be appointed.

D. P. Cliff, President of the O.M.E.A., spoke briefly on the question of uniform liability insurance for the municipalities. This matter, he said, was now in the hands of the Pension and Insurance Committee. He also announced that the new handbook on the "Duties of a Commissioner" was scheduled for distribution at the next meeting of the Georgian Bay Association.

Coinciding with the afternoon business session — attended by male delegates — a bus trip to Inverhuron and afternoon tea was arranged for lady delegates. "Bargains of Life," was the subject of an interesting address by Rev. P. B. Reid, Collingwood, which featured the banquet at the conclusion of the formal sessions.

The following officers were elected for

(Continued on page 32)



MUST BE POWER RATES they're discussing! Group includes, left to right, Robert Butter, Owen Sound, Secretary, District 2; Chairman W. E. Theaker, Paisley Hydro Commission; C. E. Crease, Consumer Service Engineer, Georgian Bay Region; K. C. Coleman, Cost Accountant, Ont. Hydro.

LAST SPIKE

(Continued from page 3)

lations and the official close of a unique phase in Hydro's construction history. But right there on the track, as the little inaugural train butted its way through the towering rock cuts and gaily paced the mile-markers through glorious scenery, time seemed stopped.

Star of the Show

One had the feeling that man's conquest of nature can best, perhaps only, be truly savored at the time the conquest is actually made. In a sense, although Hydro's Major H. J. MacCrimmon and his Commission and contractor associates, had done the real conquering, the train was, for the moment, the star of the show.

On board were some of the Hydro men who had helped put Nature in her place and the tracks in theirs.

Among the passengers were Major MacCrimmon, who supervised the building of the line; Hydro's Assistant General Manager — Engineering, Dr. Otto Holden, in whose honor the third Ottawa River project has been named; J. R. Montague, Director of Engineering; B. D. Poyser, Project Engineer for the Otto Holden Development, and David Forgan, Hydro's Director of Construction.

Striking Contrast

For the most part, the right-of-way was a striking contrast between northland ruggedness and serene vistas of the river and hills. Looking out through the coach windows to the left, one recognized the familiar landscape of Canada's northland — the massed evergreens, the rugged granite and the endless bushy undergrowth.

But to the right, it might have been Scotland — Loch Vennachar in the Trossachs, perhaps — a restful aspect of shimmering low hills and silver river winding gracefully between abrupt banks.

In short, the engineers had hewn out of country at least as bad for railway-building as the north shore of Lake Superior, a line almost as striking and beautiful in rough grace.

This was evident as this first train passed several points on the new line where engineering ingenuity had solved seemingly insurmountable problems — the graceful bridge across the gorge of the Beauchene River and an extensive muskeg "fill-in" which required some 75,000 cubic yards of material.

During the short journey, the train stopped alongside a lonely station marker bearing the name "Holden", — also in honor of Hydro's Assistant General Manager — Engineering.

At length, the engine slackened speed and stopped just opposite the Quebec end of the great Otto Holden dam. Hydro and C.P.R. officials dismounted and were greeted by Hydro Chairman Robert H. Saunders.

Silver Spike

A silver track spike was inserted in the final tie-plate and Dr. Otto Holden and W. B. Crombie, Project Manager, drove it home expertly with section gang mauls to officially open the new line.

On hand to accept the railway from Hydro on behalf of the C.P.R., G. N. Curley, General Manager of the Eastern Region, complimented the Commission's engineers on "an excellent job done in record time".

Chairman Saunders lauded "the splendid co-operation of the C.P.R., in this and in all our projects."

He also complimented the engineers who drove the 37-mile railway through the difficult terrain. "They have done a truly marvellous job," Mr. Saunders said. "I am proud to be associated with these men."

Among those present for the track-side ceremonies were mayors and reeves of upper Ottawa Valley municipalities; F. M. Donegan, C.P.R. General Superintendent at North Bay; H. J. Gordon C.P.R. Location Engineer; G W. Miller, Engineer, Maintenance of Way; A. R. Everts, Superintendent, Sudbury Division; W. N. Irwin, Agent at Timiskaming; James Therrien, President of the Therrien Construction Co., Ltd., and Don McQuigge of Peacock and McQuigge, Ltd., contractors on the railway project.

Engineers Name Field Secretary

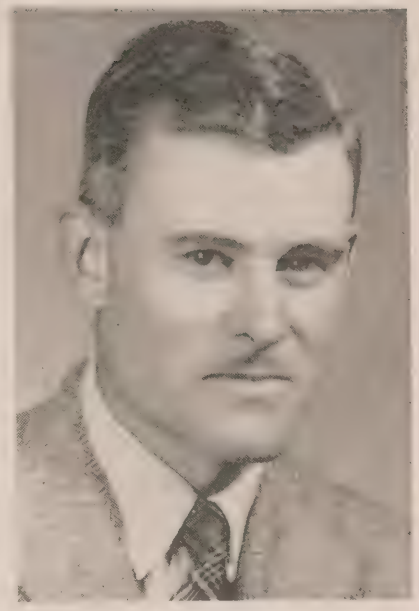
TO provide additional service for the more than 13,000 members and employer organizations throughout the province, Thomas C. Keefer, has been appointed to the executive administration staff of the Ontario Association of Professional Engineers.

In making this announcement, President W. H. M. Laughlin pointed out that Mr. Keefer, descendant of a prominent Canadian professional engineering family, would be field secretary of the association, largest professional technical body in Canada. According to Colonel Thomas M. Medland, Executive Director of the association, the new field secretary's duties will include visits to various sections of the province meeting professional engineers, employers, and speaking to community organizations.

Membership in the Ontario association has almost tripled in the past five years. Today there are nearly 9,500 fully qualified professional engineer members, and 3,500 student and undergraduate affiliate members.

Keefer, now 37, brings to his work first-hand knowledge of professional engineering problems, especially those confronting young engineers. Upon graduation from Royal Military College, he attended University of Toronto, graduating in 1939 with a Bachelor of Applied Science degree.

The war interrupted his first job as a mine surveyor and he enlisted as a Lieutenant in the artillery. Upon the completion of hostilities in northwest Europe he held the rank of Major.



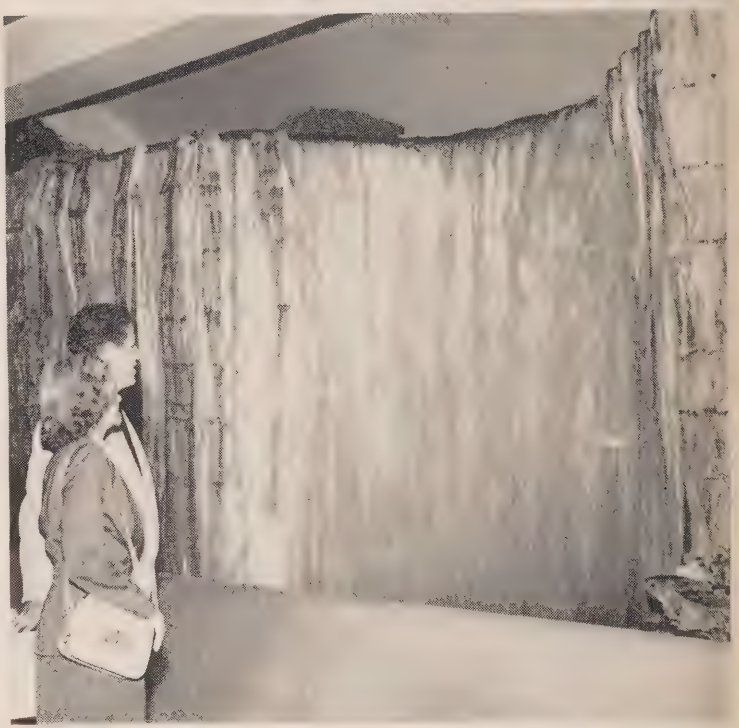
THOMAS C. KEEFER

Returning to Canada he resumed mining activities and was engaged in various sections of Northern Ontario. He was resident mine manager of the Duport mine in Kenora before joining the association. His great-grandfather was Thomas C. Keefer, one of the founders of the Canadian Society of Civil Engineers and its first president.

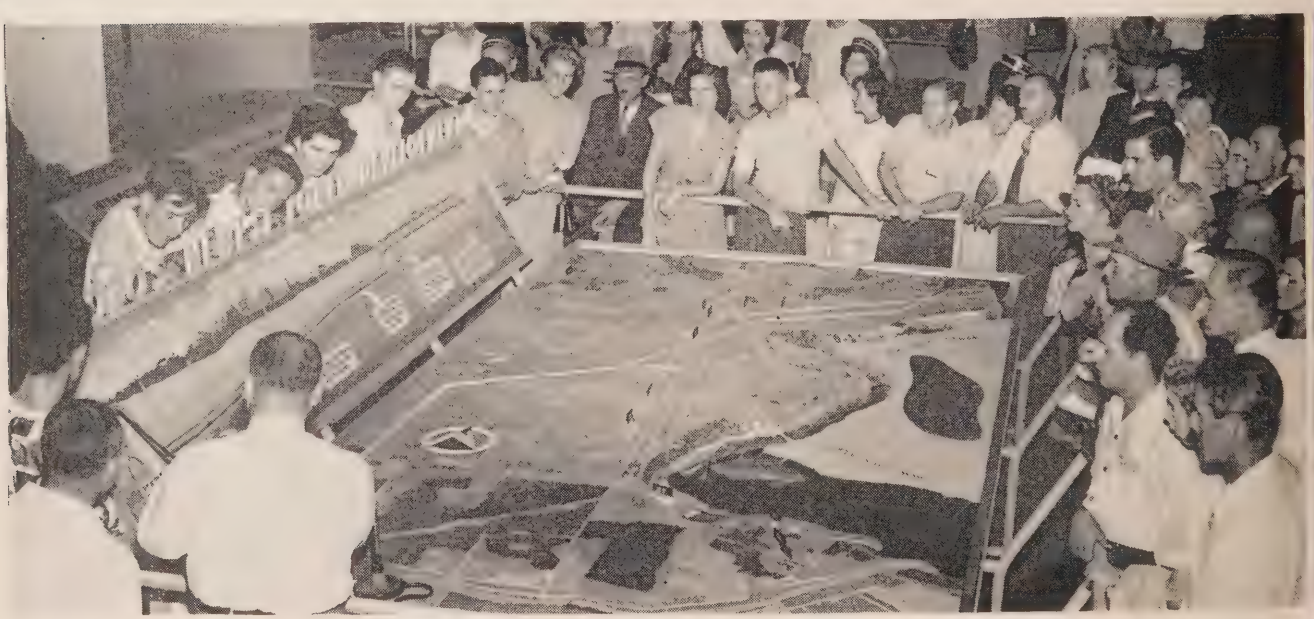
Echoes of the BIG FAIR



GRAPHICALLY portraying the role of Hydro in the lives of the people of Ontario, the Commission's exhibits at this year's C.N.E. — the largest in history — featured the theme, "Power for Progress and Better Living." In the Electrical Building booth, thousands of visitors manifested a keen interest in the animated model of Hydro's Sir Adam Beck No. 2 development near Niagara Falls. Providing an eye-catching backdrop for this model was a colorful replica of Canada's world-famous Horseshoe Falls at Niagara. In the Governments Building, large throngs pressed around the giant, realistic scale model which vividly illustrated all the salient features of the much-discussed St. Lawrence Seaway and Power Project. The Commission's exhibit in the Ontario Government Building took the form of an animated display which told the story of "Your Hydro Behind the Switch." An outdoor exhibit near the western end of the Electric Building also attracted widespread attention with its display of Hydro's mobile equipment. On view were 16 types of vehicles — part of the Commission's large fleet—which are playing an important role in both the expansion and frequency standardization programs.



ANIMATED REPLICA OF HORSESHOE FALLS WON POPULAR ACCLAIM.



CROWD LISTENS INTENTLY TO DESCRIPTION OF SIR ADAM BECK NO. 2 PROJECT.



MANY PROMINENT GUESTS INSPECTED REALISTIC ST. LAWRENCE SCALE MODEL.





OUTDOOR EXHIBIT FEATURED DISPLAY OF ONTARIO HYDRO'S MOBILE EQUIPMENT.

Rates Remain Unchanged



PRESQU'ILE HOTEL—scene of 1951 E.O.M.E.A. Conventi



CONGRATULATIONS ARE extended by F. H. Plant, Otta
left, as he hands over the E.O.M.E.A. presidency to M
Elliott, Bowmanville, new chief executive for the current

No Increase Anticipated During 195 or 1952, Chairman Saunders Announce

BARRING unforeseen circumstances, there will no general increase in the interim rate to mu cipalities or Hydro's rural customers during 1951 1952.

This reassuring announcement was made cently by Chairman Robert H. Saunders when addressed delegates at the annual convention of Eastern Ontario Municipal Electric Association, h this year at Presqu'ile Point, Ontario.

Maintenance of the present power rates, in face of tremendous increases in prices of mate and labor represented an achievement on the p of the Commission, Mr. Saunders declared. E more striking was the fact that despite record creases in food and other commodity prices, the

(Continued on page 13)





OVE: Break between business ssions gave this quintet an portunity for relaxation and cussion. Left to right—D. L. Kerracher, A. H. Reid, and H. Howat, all of Arnprior; T. Garlough and A. M. derson of H.E.P.C., Ottawa.

GHT: M. Gratton O'Leary, e-President and Associate itor of the Ottawa Journal, s guest speaker at the con- tion luncheon. At the head le in this picture are, left to ht—W. Ross Strike, K.C., ond Vice-Chairman, Ontario dro; L. C. Mason, Mayor of wmanville; F. H. Plant, Chair- n, Ottawa Hydro - Electric mmission; Mr. O'Leary, D. P. F, O.M.E.A. President, and W. Manby, Asst. Gen. Man- er—Administration, H.E.P.C.



ABOVE: It looks as George Rogan of the North ern Electric Company doing the answering in thi picture! Left to right—M Rogan, H. D. Rothwell, Ac ministrative Assistant—Re gions, Ontario Hydro; O. S Luney, Manager of Hydro Eastern Region; A. W. Man by, Ontario Hydro's Assist ant General Manager—Ac ministration; and J. W Young, Consumer Servic Engineer, H.E.P.C. Ottawa

BELOW: Many hands mak light work of presenting th cup for low net at the gol tournament held in conjunc tion with the convention Left to right—W. Ross Strik and E. G. McCracken— jointly presenting th trophy, Don Grant, the re cipient, and W. E. Wheele aiding Don with his prize





BELOW: A seat in the shade is enjoyed by these three delegates during a brief recess. Left to right—W. M. Wheeler, St. Catharines; Charles Ogilvie, Hamilton, and Harry Beatty, Peterborough.

New Pension Plan



Directors of Municipal Hydro-Electric Pension and Insurance Plan Announce Supplementary Proposals to Increase Existing Benefits

INCREASED benefits for municipal employees eligible for pension in future years, and minimum pensions for municipal staff members due for immediate retirement.

The foregoing is a concise synopsis of a supplementary pension plan which is now available to Ontario municipal Hydro systems.

These proposals for improved Hydro pensions are the result of comprehensive studies conducted by the Directors of the Municipal Hydro-Electric Pension and Insurance Plan in conjunction with the Confederation Life Association.

A summary published recently by the Directors draws attention to the fact that their review of the pension features of the existing plan which was established in 1929, was undertaken at the request of a joint O.M.E.A.-A.M.E.U. Committee appointed by Ontario Hydro in response to resolutions passed at the annual O.M.E.A.-A.M.E.U. Convention in 1950.

When the existing plan was devised "it was considered to be an adequate one that would, in due course, pay reasonably good pensions," the brief points out.

Dollar Power

While the insurance section of the plan has generally fulfilled its objectives, the Directors state that "the drop in the purchasing power of the dollar and the increased interest and more general acceptance of pensions," necessitated a review of the pension aspects of the scheme for the purpose of increasing its benefits.

The supplementary plan which was approved by the O.M.E.A. and A.M.E.U. at their joint sessions this year is a dual scheme including suggestions for younger employees as well as provision for minimum pensions for those due to retire immediately or in the near future.

In order to make larger pension benefits

(Continued on page 32)



DIRECTORS OF the Municipal Hydro-Electric Pension and Insurance Plan recently met with Ontario Hydro and Confederation Life Association officials to finalize new proposals. Left to right — R. S. Reynolds, Chatham; Mrs. Kay Kestell, Guelph; Bert Merson, Toronto; Alex. Manson, Stratford; Hon. George H. Challies, Ontario Hydro; P. R. Locke, St. Thomas; Miss P. Skirrow, J. G. Murray and R. G. Maitland, Confederation Life Association; H. G. Menzies and A. W. Murdock, Ont. Hydro.

RATES UNCHANGED

(Continued from page 10)

of electricity had decreased substantially since 1938. Food prices, for instance had increased by approximately 143 percent while domestic power rates dropped by an average of 19.24 percent.

Dealing with the overall urban picture, the speaker stated that commercial rates were 25.31 percent below the 1938 cost. In rural Ontario the farmer paid, in 1950, an average cost of 1.847 cents per kilowatthour, as compared with 2.55 cents in 1940 — a reduction of 27.57 percent.

Demands, due to the international situation, were extremely heavy, he said, — so heavy, in fact, that the Commission had initiated a campaign asking people to save power, especially between the hours of 4.30 and 6.30 p.m.

The question of future power resources was one of prime importance to the Province, Mr. Saunders continued. Hydro's $182,000,000 Sir Adam Beck No. 2 project near Niagara Falls would add approximately 700,000 horsepower to the Commission's resources, he told delegates.

But the waters of the St. Lawrence must be harnessed if Hydro was to continue to give Ontario low-cost power in abundance.

"We shall need the St. Lawrence power by the end of 1956 or early 1957," Mr. Saunders stated, "If we do not get it, then the alternative is steam generation at a cost over three times as high."

This additional cost must be spread over the whole of the Southern Ontario System in the same manner as the costs of steam generated power from the Toronto and Windsor Steam Stations.

Niagara Models

Following the Chairman's address, Richard L. Hearn, the Commission's General Manager and Chief Engineer, described the significant savings effected in connection with construction at the Sir Adam Beck No. 2 project by preliminary model tests.

Using a map of the Niagara area, Mr. Hearn outlined the major features of the large new development. Then, with the aid of a new Hydro film depicting several of the Commission's hydraulic models, he showed some of the tests which were undertaken by Hydro's engineers in solving certain design and construction questions.

"To date these models have saved about five million dollars in construction costs as well as pointing the way to the most efficient designs," Mr. Hearn revealed.

General Business

Featuring the business sessions was a discussion of power costing methods when several delegates urged that a simplified description of costing procedure be prepared and circulated to members of the Eastern Ontario Association.

In reply, A. W. Manby, Hydro's Assistant General Manager-Administration, informed delegates that a summary dealing with this subject had been distributed to members of another district association. He assured his audience that every effort would be made to ensure clarification of all costing procedures. Mr. Manby also stressed the fact that the Commission was anxious to co-operate in every way with the O.M.E.A. in solving local and general problems relating to Hydro.

Luncheon speaker was M. Grattan O'Leary, Vice-President and Associate Editor of the Ottawa Journal, and a recently-appointed member of the Ontario Hydro-Electric Advisory Council.

Introduced by Chairman Frank Plant, Mr. O'Leary urged Canadians to take a deeper interest in national affairs, stressing the importance of active support and participation in all forms of local government. He stated that the O.M.E.A. was fulfilling an important function on behalf of the citizens of Ontario, and said that strong membership in such institutions was the key to a strong democracy.

At the afternoon session, delegates elected the following officers for the current year: President M. J. Elliott, Bowmanville; Vice-Presidents, E. V. Dyke, Smiths Falls and J. G. Baldwin, Lindsay. Directors: Dr. R. A. Patterson, Kemptville, G. F. Shreve, Oshawa, and C. R. Carveth, Newcastle; O.M.E.A. Executive Representatives, Col. James Harris, Kingston, and George E. Findlay, Carleton Place.

EXCELLENT PROGRESS

FROM April to August this year, Ontario Hydro's Standards Committee standardized 631 items —more than in any previous period — according to a recent report by R. B. Young, Chairman of the Committee.

Mr. Young reports that the number of items standardized to date now totals 951. Concurrently, 267 items have been eliminated, and 223 new ones introduced.

The Committee has also published and distributed a booklet entitled "Policies and Procedures" which should prove helpful to all those actively concerned with standardization and will also acquaint those not actively concerned with the importance and objects of standardization. Copies of this brochure are still available and may be obtained from C. C. Boyle, Secretary, Standards Committee, Supply Control, Orde St. Service Building, Toronto.

TO EXPAND FACILITIES

Brantford Public Utilties Commission plans a $245,000 expansion program to be carried out this year.

The program, which will improve the electrical service to customers within the municipality, will include construction of two temporary substations and 27.6 kv transmission lines, as well as improvements and extension to the existing distribution system.

60-Cycle Power in 1910

IN a recent issue the Galt Evening Reporter revealed that 60-cycle power was not really an innovation for nearby Preston.

Going through its files, the Reporter found that this town, prior to 1910, had a 100-horsepower, 60-cycle generator which provided limited lighting and street-lighting service.

Preston became one of the original 14 communities that entered the Hydro Family, the reason for the change being the limited capacity of the steam-generating plant.

First Hydro power was delivered to Preston in November, 1910, under a contract with Ontario Hydro to supply 600 horsepower. By 1912, however, the load had reached 785 hp. Present load is 5600 hp.



HAMILTON HYDRO'S General Manager, A. W. Bradt, smiles his approval of the new headquarters building. Desk set (foreground) was gift of marble-setters who finished walls of modern sales room.



SYMI

Hamilton's New
HYDRO HEADQUARTERS

Modern Three-Storey Service Building Now Houses All Departments of Growing Municipal Commission

MEMBERS of Hamilton Hydro-Electric Commission and its 335 employees are mighty proud of their new service building.

And any visitor will surely agree that the handsome, three-storey structure at the corner of John and Rebecca Streets is not only pleasing to the eye but is designed to meet all the requirements of the local commission's expanding operations.

Just recently, *Hydro News* had the privilege of making an "on-the-spot" inspection of this new headquarters. In the first place, it is a building that presents a "good front." Built of grey, Queenston cut-stone, the modern home of the Hamilton System, has an imposing main entrance.

The interior is equally impressive. For the convenience of the general public, the sales department and several of the principal business offices are situated on the ground floor. On the second floor are the executive offices, the commission's board room, and the billing room, while the engineering, drafting and accounting departments are located on the third floor.

35-vehicle Fleet

Parking space for Hamilton's Hydro fleet of 35 motor vehicles is provided in the basement where boiler rooms, locker-rooms and showers, as well as other employee facilities are also accommodated. The meter department is housed in a converted substation adjoining the main building.

From its gleaming chrome-and-glass "front door" which faces on John Street, to its modern drafting rooms on the third floor, the new headquarters happily combines the esthetic with the functional.

Marble walls in the sales room on the main floor; oak-panelled hallways; air-conditioning and fluorescent lighting fixtures set diagonally above desks in order to minimize shadows, are just a few of the modern facilities installed in Hamilton's newest public building.

And speaking of those marble walls in the sales room, perhaps no one is more proud of them than the Hamilton Com-



ES HANDSOME SERVICE BUILDING IS A THREE-STOREY STRUCTURE OF GREY, QUEENSTON CUT-STONE.

mission's General Manager, A. W. "Andy" Bradt. During the construction period, Mr. Bradt, who has been associated with the commission for almost 40 years, could often be found watching intently as workmen painstakingly fitted the heavy slabs into place.

Occupying a place of honor on the desk in his second-floor office is a gleaming desk set made by the workmen from the same marble which adorns the walls of the spacious sales room. The two-pen desk set was presented to him by the marble-setters when he moved in with the rest of the staff in April this year.

Board Room

Perhaps the most conservative room is the panelled board-room across the hall from Mr. Bradt's office. Here one finds a link with the past in the 16-foot mahogany board-room table which served as a counter in the Bank of British North America branch until Hamilton Hydro took over the building several years ago. Three pieces of mahogany joined so

(Continued on page 18)



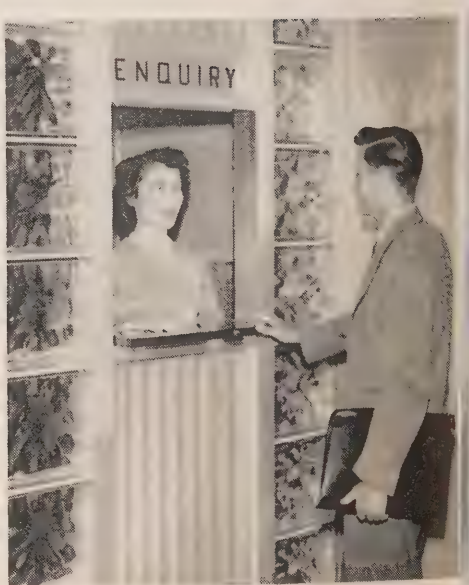
IN THE GLEAMING SALES ROOM, Hydro Salesman C. M. Card, left, explains operation of an electric waffle iron to a customer, John Bowlby. Sales room is located on main floor of building.



LARGE WINDOWS and fluorescent
third floor of new headquarters. Lig



IN the office of John Coubrough, Assistant Accountant, Henry Astle, graphic power billing clerk, seeks advice. Windows were open temporarily while air conditioning was adjusted.



GLASS BLOCKS which filter natural light, frame
enquiry desk where Receptionist Betty Brown
gives directions to customers and other visitors

MINOR REPAIRS for Hamilton Commission's 35-vehicle fleet are handled by garage located on ground floor (upper
Tom Thornthwaite, mechanic; Bill Angus, trouble-shooter; Garage Supervisor H. Coale, and C. A. Connolly, lineman. Ir
and Driver Elmer Prince are intent on tuning up truck. Ramp at right leads to basement parking area. Ample space is av



ul's of drafting department located on the
s diagonally above desks to cut shadows.



METER DEPARTMENT is housed in redecorated, converted substation adjacent to main building. At work, Government Insp. Geo. Neal, centre, Tom Grundy, Russ Potter, Hamilton Hydro, l and r.





BILLING MACHINES are located in a sound-proof room off the main billing office on the second floor. In this photo Phyllis Coulter (standing) is checking work on Megan Jones' desk. Operators at the machines are, left to right, Lois Bowman, Laurie Hunt, Evelyn Hamilton.



MAIN BUSINESS OFFICE is situated on the ground floor. Above left to right, Cashiers Alice Patterson, Lorrain Seeley and Patricia Townson are seen on the job. Below, in the main billing office, Billing Supervisor F. L. Thomson checks on a problem with a member of his staff.



HYDRO HEADQUARTERS

(Continued from page 5)

closely as to be almost invisible, form the top of the table while the counter feet, embodying elaborately-curved coats-of arms have been converted to serve as "legs" for the massive table.

The new building, which cost approximately $1,184,000, directs attention to the growth of the Hamilton Commission in the past ten years.

In 1940, this Commission was serving 46,368 customers of all classes. By 1945, this figure had reached 50,852, including 44,209 domestic, 5,565 domestic and 1.078 power users. A further increase was recorded in 1950 when the total number of consumers reached 59,960. This year, Hamilton has exceeded the 60,000 mark.

Peak Loads

A corresponding increase has been noted in the peak load during the past decade, ranging from 101,124 kilowatts in 1940 to 129,785 in 1950. On June 13 this year an all-time high of 173,251 kilowatts was established. Similar increases are shown in the record of kilowatthour consumption. In 1940, this figure totalled 528,049,539. By 1950, consumption had reached 929,633,503 kilowatthours. This year promises to be a bumper one in line with the system's other figures.

But the prospect of expansion does not bother the Hamilton Hydro Commission. They are ready to meet that challenge for their new building was designed and built with an eye on the future and an ever-expanding scope of public service.



SECRETARY Betty Logan is receptionist for executive offices situated on second floor.



HALLOWE'EN DOUGHNUTS

Beat: 2 eggs
Add slowly, beating constantly: 1 cup sugar
Stir in: 1 cup milk
5 tbsps. shortening
Sift before measuring:
4 cups bread flour
Resift with:
4 tbsps. baking powder
¼ teaspoon cinnamon
or
½ teaspoon salt

Stir the sifted ingredients and the egg mixture until they are blended. The dough may be chilled until it is easy to handle. Roll the dough to the thickness of ¼ inch. Cut it into shapes. Fry the doughnuts in deep fat, heated to 370 degrees (hot enough to brown a cube of bread in 1 minute). Brown them on one side, turn and brown them on the other. Drain on absorbent paper. Then, place in electric oven of 375 degrees to crisp—or shake in a bag with sugar and cinnamon in it.

IT IS quite safe to assume, we think, that Their Royal Highnesses, The Princess Elizabeth and The Duke of Edinburgh have taken time out during their busy tour in Canada to honor that grand old British tradition of drinking tea.

This custom has been in vogue since the reign of King Charles II among Britons of every strata of society.

The visit of the Royal couple to this continent has prompted a little research on the subject of tea-drinking.

* * *

A stoneware teapot was first made in England by a Fulham potterer, named John Dwight, in 1671. However, it was not until 1759 that Josiah Wedgewood won European acclaim with his Jasper ware in the form of a beautiful teapot.

* * *

Although the Chinese and other Oriental races had brewed tea for years before it was introduced in Europe they did not use a teapot. These people steeped tea leaves in a cup without a handle, just as they do now. Many of the cups have a cover which is similar to the saucer that we use today.

* * *

You may get "fed up" peeling potatoes but the members of the family never tire of being fed potatoes either mashed, baked, boiled or fried. Remember, they will have more goodness if you don't peel them. After boiling in the jackets, potatoes may be skinned and served with a sprinkling of parsley, either mashed, creamed or as a hot potato salad.

* * *

Know your onions! Do you realize that the price of cooking onions in September 1951 was only 5 cents a pound? In January, 1938 onions were 5 cents a pound *and* in January, 1931, 4 cents a pound. Yet many people ignore this valuable low-priced vegetable. Three, medium-sized cooking onions contain more food value than comparable servings of cabbage, tomatoes, sprouts, beets or string beans.

* * *

Ever consider onion soup for company? Well, make a cream onion soup and add a tin of smoked oysters. Serve with melba toast and you can count on it as the main dish for lunch.

* * *

Old-fashioned apple turnovers are a timely dessert. Roll out and cut out five-inch squares of pastry. Then, on one side put a heaping spoon of thick cold applesauce, fold the pastry to make a triangle, wet the inside edges, and press down these edges with a fork. Prick the top and bake in electric oven at 450 degrees for 20 minutes. Serve with thin cream.

* * *

It's surprising what a little heat will do to change the flavor and texture of bananas. For a canasta lunch, we served broiled, sliced bananas on toast accompanied by hot chocolate. (Many compliments followed.) The sliced bananas were arranged over buttered toast, sprinkled with brown sugar and broiled in the electric oven—then served piping hot.

* * *

Fruit and cheese sandwiches make a light party fare. Steam soaked apricots until soft, then put through a chopper and mash with cream cheese as a filling for brown bread. Add chopped nuts if desired.

Canadian beef is inspected for your protection. You should be able to identify the quality as well as the cut that you buy. Grade A is the choice quality stamped as Red Brand, while Grade B is good quality stamped as Blue Brand. Less than one-quarter of the beef in Canada falls into either Grade A or B. However, if meat is properly prepared it should give you good eating satisfaction.

* * *

There are only five cuts of beef which should be cooked as tender cuts, that is, without water and without a cover. These pieces of meat are Standing or Rolled Prime Rib, Inner Roll Rib Roast, Porterhouse or T-Bone Steak, Sirloin Steak, Wing or Club Steak.

* * *

Less-tender cuts of meat should be cooked by the moist heat method in a pan or roaster. These cuts are round steak, rump roast, sirloin tip steak or roast, blade roast, short rib, shoulder of round roast, chuck, brisket, short ribs and flank steak.

* * *

Do not store green tomatoes in the refrigerator as they will rot quickly. Wrap each one in newspaper and store in a cardboard box and the green vegetables will slowly ripen.

* * *

Make use of croutons: Leftover bread may be cubed and sauteed to a golden brown color in margarine, oil or dripping. These toasted pieces are more than just a good soup garnish. Add them to tossed salads. Fold them into scrambled eggs. Scatter them on top of a bowl of hot stewed tomatoes or place them in a pan of liver and bacon.

▲ DOMINATING the South Bank exhibition, the 300-foot Skylon was the soaring symbol of the Festival. The beacon was held upright by cables that were almost invisible. Below—floodlighting adds new charm to St. Paul's Cathedral. ▼





ANCIENT AND HISTORIC Windsor Castle was floodlit
Festival and photo above shows how the Round To
the Castle grounds looked after lights had been turn



FESTIVAL FACTS

BRITAIN'S great Festival is over. Dedicated to and created by the people of the United Kingdom, the historic exposition closed its doors on September 30 just five months after it had been inaugurated by King George VI. A memorable observance of the centennial anniversary of the Great Exhibition of 1851, this year's event provided a welcome and colorful departure from austerity. Although 2,000 cities, towns and villages sponsored exhibitions, displays or pageants as part of the Festival, the heart of the great "show" was in London. Here, some 16,000,000 sightseers, according to unofficial estimates, visited the South Bank exhibition and the nearby Battersea Pleasure Gardens. Actually attendance figures indicate that a daily average of 56,000 visitors passed through the gates of the South Bank site which featured displays of Britain's cultural and technological achievements. In the Pleasure Gardens a joyous, carnival mood predominated. Some of the spirit of the Festival is captured in the photographs reproduced on these two pages which depict several famous London landmarks in their floodlit settings. With the closing of the exhibition, these lights no longer illuminate London's night sky as the nation looks forward to another possible fuel and power crisis. Industry, for instance, has been asked to reduce its consumption of electricity by 20 percent during the coming winter. But, come power cutoffs or not, Britons in their Festival served notice on the world that their spirit remains undimmed.





WESTMINSTER'S Clock Tower and Big Ben were seen in a new "light" during the colorful Festival. ▶



Will Retire In December

MANAGER of Brockville Public Utilities Commission for the past 28 years, Alexander L. Farquharson will retire on December 31.

Born and educated in Scotland, Mr. Farquharson began his career in 1904 as Manager of Dundas Electric System for the Dominion Power and Transmission Company. In 1908 he moved to Fort William where he was Manager of the Electrical, Telephone and Street Railway Departments.

During his 15 years at Fort William he pioneered many of the electrical innovations and improvements in that city. He superintended building of the first electric street railway, designed and built the electric car barns, and also installed new cables throughout the whole city for street lighting and the telephone department.

When he joined Brockville P.U.C. in 1923 as Manager, Mr. Farquharson faced many difficult problems — this time of a financial nature. Records show that the local utility had a bank loan of $42,000 and that further aid from the bank had been refused. In addition, outstanding debentures totalled $414,000.

The local commission now has a sound financial structure, and it has been free of debenture debt since the last payments were made in 1933. Local assets of the Brockville Commission stand at an all-time high of $639,574, with liabilities amounting to only $18,947.

This healthy economic picture is due, according to members of the local commission "to the splendid application of Alex' Scottish thrift."



A. L. FARQUHARSON

SEEK CITY APPROVAL

North Bay Hydro-Electric Commission is seeking city approval of a $232,000 expansion program to be financed by a debenture issue.

Substantial Saving

BRANTFORD Public Utilities Commission is planning to pick up new power loads at 60 cycles.

The program, approved by Ontario Hydro, will include the building of substation and distribution facilities at a cost of approximately $55,000, which will be borne by the Ontario Commission.

It is estimated that by providing 60-cycle power to new industrial loads in advance of the scheduled standardization program the Ontario Commission will realize a net saving of about $227,500.

The work is being undertaken on the understanding that Brantford Commission will purchase from Ontario Hydro all or any part of the facilities which may be incorporated into the permanent plant of the local utility.

Hearst Votes "Yes"

ON October 3, the people of Hearst, Ontario, voted overwhelmingly by 377 to 18 to join the Hydro family.

Immediate steps are being taken to speed completion of a 60-mile stretch of transmission line, linking the new transformer station, now being built at Kapuskasing, with Hearst. In addition to 400 domestic, 97 commercial and 3 industrial customers at Hearst, the new line will also bring service en route to approximately 500 rural customers, Hydro Chairman said.

Every effort is being made to complete the necessary facilities in order that the people of Hearst will have Hydro in their homes by Christmas. In line with the expressed desire of His Worship Mayor George McNee and members of council, plans are being made for a suitable celebration between Christmas and the New Year, marking the arrival of Hydro at the Northern Ontario Municipality.

PRESTON PROFIT

A net profit of $3,799 during the first six months of 1951, is reported by the hydro-electric department of Preston Public Utilities Commission.

Last year the department made $3,143 during the corresponding period. Largest expenditure for the first half of 1951 was $76,999 for power.

NEW STOREHOUSE

A prefabricated Ontario Hydro storehouse with approximately 10,000 square feet of storage space is to be built on the site of an old emergency grain warehouse at Port Arthur.

In addition to serving the Northwestern Region, the new stores building will provide accommodation for a maintenance crew presently based at Cameron Falls Generating Station.

Lighting "Dean" Passes

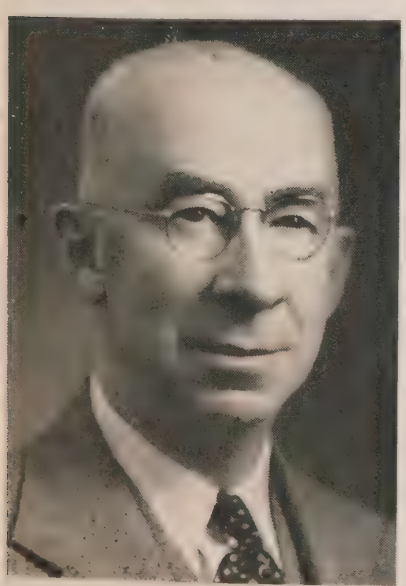
GEORGE C. COUSINS of Port Credit, well known as the "Dean" of Canadian Professional Illuminating Engineers, died recently at the age of 67.

Born in Hamilton on March 11, 1884, Mr. Cousins was associated with Ontario Hydro for nearly 38 years until his retirement last year. During his long service with the Commission he earned a reputation as one of Canada's leading authorities on street-lighting applications and school lighting research.

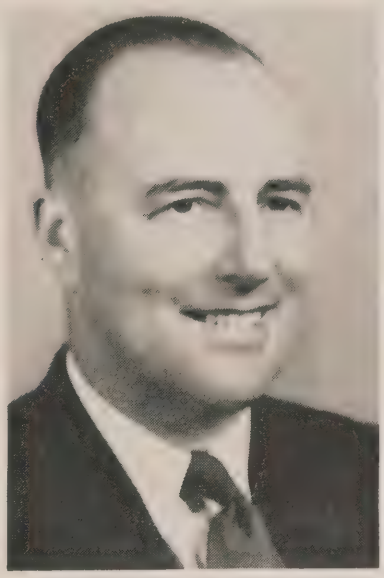
Mr. Cousins was also first Chairman of the first Canadian Chapter of the Illuminating Engineering Society, holding office in 1921, 1922, 1928, 1929 and 1930. On his retirement last year after 30 years' active association with the I.E.S., his colleagues in the Toronto section of the society presented him with a scroll honoring him as the "Dean of Canadian Professional Illuminating Engineers."

Joining Ontario Hydro in 1912, Mr Cousins took charge of the Commission's Illuminating Laboratory at Strachan Ave., Toronto. In 1938 he was appointed Lighting Engineer for Hydro in the Consumer Service Division.

Always an enthusiastic sailor, Mr. Cousins was a member of the Port Credit Yacht Club. He also was a keen painter in oils and was a noted color photographer. Mr. Cousins is survived by his widow and three sons, Charles, Howard and William, all residents of Port Credit.



GEORGE C. COUSINS



L. MacVICAR



F. T. FORD

St. Thomas Appointments

ST. THOMAS PUBLIC UTILITIES COMMISSION has announced appointment of Frank T. Ford, General Assistant for the past 22 years, as Assistant to the General Manager. He will have complete charge during any absence of General Manager J. W. Peart. Simultaneously, Lorne D. MacVicar has been made Assistant Superintendent of the Hydro Department, under Superintendent Herbert Aitken. William J. Underhill, a member of the Commission's engineering staff since 1949, has been appointed Assistant Engineer.

Charter Commissioner Passes

GEORGE C. E. GRANT, a member of Meaford Public Utilities Commission since its inauguration 27 years ago, died recently at his home.

Born near Collingwood, Mr. Grant moved to Meaford at 17 to start his building and contracting career with Meaford Planing Mills. Later he took over management of the business and subsequently earned a degree in architecture.

Mr. Grant supervised construction of many of Meaford's public buildings, including the town hall, the United Church, the Presbyterian Church, Christ Church Sunday School, and an addition to Meaford High School.

Chief of Meaford Fire Brigade, Mr. Grant was a member of the brigade for 43 years. His son, George Jr., is now Chief.

Mr. Grant was associated with the Independent Order of Odd Fellows for 50 years and a member of Christ Church, Anglican. Besides his widow he leaves two sons, George Jr. and Howard, and a married daughter in Ottawa.

A veteran in Meaford's municipal affairs, Frank N. Harding, has been appointed Commissioner in Mr. Grant's place, according to a recent announcement by Meaford Council.

LOAD TRIPLED

A threefold increase in the St. Catharines load figures was reported recently by Manager Ray Pfaff of the local Public Utilities Commission, during a commission meeting.

The load was 11,000 kilowatts in 1940, compared with 33,000 kilowatts this year.

District No. 3 O.M.E.A Convention



PICTURESQUELY-SITUATED among the silver lakes of Ontario's Northland, Sioux Lookout provided a beautiful setting for this year's Dist No. 3 convention. Delegates took time out to visit some of the beauty spots, as well as entering in a "fishing derby" arranged in their hor

UNTOLD BENEFITS

"TELL your United States friends about the importance of the St. Lawrence to Canada at every available opportunity".

This suggestion was one of the main points in an address by W. Ross Strike, K.C., Second Vice-Chairman of Ontario Hydro, during the recent annual convention of District No. 3 O.M.E.A. at Sioux Lookout.

"It is everyone's duty", Mr. Strike declared, "to support and publicize this project which will bring untold benefits not only to the people of Ontario, but to the whole of Canada".

In his address Mr. Strike traced the development of Ontario's power resources since the end of World War II. Hydro, he said, could be justifiably proud of its record during this time in meeting the tremendous upsurge in power demands.

At present, the citizens of the Northwestern Region were in a fortunate position, the speaker pointed out, for they had the resources to increase present installed capacity if and when necessary.

"Everyone's Duty" to Support and Publicize St. Lawrence Project, W. Ross Strike, K.C., Tells District 3 Delegates

In Southern Ontario, on the other ha the Commission would soon be enter the field of steam generation on a ma scale — which would mean increa operational costs. If permission for velopment of the St. Lawrence was w held, Mr. Strike continued, then Commission had no choice but to fur increase its steam generating facili the expense of which would have to shared by Commission customers in Southern Ontario System.

The future development of Ont and a continuing abundance of low power was being jeopardized by the d in proceeding with the St. Lawrence velopment, Mr. Strike declared.

"It is", he said "within the powe



"IT WAS at least this size"—so George Hutcheson seemed to be saying. Listening to his "fishy" story are l to r—H. A. Schade, Sioux Lookout; A. S. Olson, Kenora; D. P. Cliff, Dundas.

THESE DELEGATES were stopped by the photographer before they attended the demonstration organized by Ontario Hydro's Research Division. The delegates were shown some of the new equipment used for various studies. Left to right in this picture are—J. K. Livingstone, R. A. Taylor and G. Lockart, all of Fort Frances.



all citizens to help immeasurably by pressing for immediate action on this important project".

Civic Luncheon

This year's convention was highlighted by a civic luncheon given in honor of the delegates. The members were officially welcomed to Sioux Lookout by Mayor W. W. Fuller, and greetings were also extended by the President of District 3, J. V. Fregeau, and Albert Wren, Secretary of the Sioux Lookout Chamber of Commerce and Manager of the local hydro-electric commission.

Ontario Hydro speakers at this luncheon included W. Ross Strike, K.C., Second Vice-Chairman; A. W. Manby, Assistant General Manager—Administration, and M. J. McHenry, Director, Consumer Service Division.

Business Meeting

At the general meeting, following the luncheon, President Fregeau stated that the executive had recently discussed registration fees. It had been decided to recommend to the meeting that any surplus from the collection of these fees should be turned over to a main fund which could be utilized in case of any future deficit arising from the overall cost of a convention.

A motion to this effect was adopted.

During the question period, D. P. Cliff, O.M.E.A. President, asked if District No. 3 would be prepared to name representatives to the O.M.E.A. Executive. He stated that a number of important de-

IT LOOKED like an interesting program and it proved to be just that—according to delegates. Studying copies are, l to r—H. A. Burleigh, Fred Greenslade, J. V. Fregeau, and A. S. Olson, Kenora.



developed by his division for instructing linemen.





MEMBERS of Sioux Lookout Hydro-Electric Commission. Left to right—W. W. Fuller, Chairman; Bill Nicol, H. A. Schade and Manager Albert Wren. Missing from the group is Dr. J. P. Jeffries, Commissioner, who was, unfortunately, ill at the time of the convention. The local commission serves 658 domestic, 104 commercial and 11 power customers.



SAM ASHTON, left, President for current year, takes over from J. V. Fregeau, Kenora.

ALWAYS AN importa item on the agenda, re istration provides a bac ground for making ne and renewing old a quaintances. This yea convention had a reco attendance and war appreciation was e pressed to Sioux Looko convention hosts for th excellent hospitali



W. ROSS STRIKE, K.C., was banquet speaker. Left to right—D. P. Cliff, Mr. Strike, J. V. Fregeau, A. W. Manby and R. B. Chandler, Manager of Port Arthur P.U.C.



cisions would be made in the near future by the parent body, and said that it was the unanimous wish that all districts have a voice in affairs which would naturally affect them.

This question was the subject of a lively debate, for it initiated a discussion on the constitution of the district with special emphasis on the definition of "full" membership in this O.M.E.A. district.

It was pointed out during this discussion that one interpretation of the constitution was that some municipalities, even though they had no contract with Hydro, could be district members and could qualify for the O.M.E.A. executive. Thus, according to this interpretation, such municipalities would have a vote on matters which would not materially affect them. Clarification of the definition of "full" membership, which was a main factor in affiliation with the district, was, therefore, necessary.

After various definitions had been suggested it was decided to leave both questions to the new executive.

New Pension Scheme

Introduced in his capacity as a Director of the Municipal Hydro-Electric Pension and Insurance Plan, R. S. Reynolds, Chatham, explained details of the new supplementary pension plan.

Mr. Reynolds pointed out that review of the existing plan was undertaken in response to joint resolutions passed at the O.M.E.A.-A.M.E.U. convention in 1950.

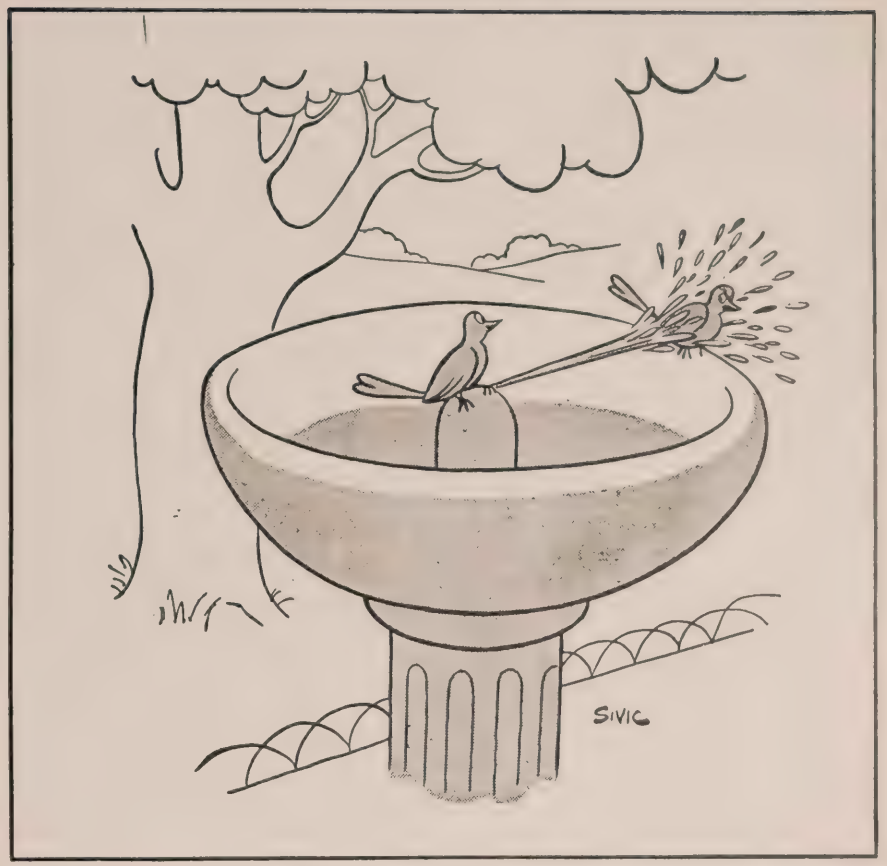
He referred to the increased benefits available under the plan for all municipal Hydro employees and urged all municipalities to consider adoption of the new scheme.

The last item on the agenda of the business session was election of officers for 1951-52. The following were elected for this current period: Sam Ashton, Port Arthur, President; William W. Fuller, Sioux Lookout, Vice-President; J. Phillips, Schreiber; C. H. Moors, Fort William and J. K. Livingstone, Fort Frances, Directors.

Research Demonstration

Another interesting feature of the convention was the technical session on research methods.

J. H. Waghorne, Ontario Hydro Research Division, first demonstrated the use of a strain gauge, and described its application in ice pressure measurements, alignment of generator bearings and finally for surge tank measurements at the Commission's Aguasabon Generating Station.



—Reprinted from Cosmopolitan

A practical demonstration of the Bolometer, an instrument developed by Hydro for the detection of overheating in transmission line joints, was also a highlight of Mr. Waghorne's talk. He followed this with an explanation of the Soniscope, another development of the Research Division, and also outlined a new non-destructive method of testing apparatus installations.

Mr. Waghorne concluded his address with an interesting description and demonstration of a new display board which has been developed to help instruct linemen in the dangers of back feed.

Adjournment of this meeting, the last on the main business program, left members free to participate in various trips arranged by the convention hosts. The final gathering was a farewell dinner given in their honor. Deep appreciation was expressed to all who organized the convention when a vote of thanks received hearty endorsation.



NEW APPOINTMENTS

Alfred H. Eadie has been appointed Superintendent of Mount Forest P.U.C., succeeding J. S. Livingstone. Mr. S. McEwan has replaced Mr. Eadie as Manager and Secretary of Palmerston P.U.C. Ex-Mayor Stanley Lewis has been appointed to fill the vacancy of the Ottawa Hydro-Electric Commission caused by the resignation of Commissioner E. A. Band owing to ill-health. Mayor Charlotte Whitton is also a new member of the Ottawa Commission succeeding the late Mayor Grenville Goodwin.



Asian Visitors—Nine electrical engineers from India and Pakistan recently toured Ontario Hydro developments on the Ottawa River and at Niagara Falls. Members of a mission from Southeast Asia in Canada for training under the Colombo plan, they also inspected major Ontario industries during their fact-finding tour. The delegates are pictured above in front of the Commission's Head Office building in Toronto as they were welcomed by Chairman Robert H. Saunders and Richard L. Hearn, General Manager and Chief Engineer. Front row, left to right—A. R. Khanna, Capt. Muqarrab Khan, Mr. Hearn, S. A. Gadkary, Mr. Saunders, G. C. Goswami and E. F. Power, Department of Trade and Commerce, Ottawa. Back row, left to right—S. B. Rama, V. R. Vaidya, T. J. Mirchandani, U. C. Nair, and Y. A. Zia.



Eighth Unit

Marked by a brief ceremony attended by Ontario Hydro representatives, the eighth and final unit at Hydro's Chenaux Generating Station on the Ottawa River was recently placed in operation. Second of Hydro's Ottawa River projects to be brought into service, Chenaux has a total installed capacity of 120,000 kilowatts (160,000 horsepower). In addition to its valuable power contribution to the Southern Ontario System, it will, by virtue of its central location, be a major repair depot for several large Hydro generating stations. Hydro's Generation Engineer, E. T. Ireson, second from left, sets Unit No. 8 in operation. Watching are A. E. Kobold, Chenaux Project Engineer (extreme left); Ken Gemmel, Plant Superintendent, and Resident Engineer Frank Dobson.

Labor Luncheon

One of the highlights of this year's observance of Labor Day at the Toronto Exhibition was the Directors' luncheon attended by several prominent representatives of both labor and management. Hydro Chairman Robert H. Saunders who presided at the luncheon is pictured with Hon. Milton F. Gregg, Canada's Minister of Labor, left, and President William Green, American Federation of Labor, who were among the head-table guests.



Inspection Tour

BELOW: During their annual inspection tour this year A.M.E.U. executive members shown here attended the annual meeting of Thunder Bay District O.M.E.A. at Sioux Lookout. Later they visited Hydro's Abitibi Canyon Generating Station. Left to right—M. J. McHenry, Director of Hydro's Consumer Service Division; S. R. Walkinshaw, W. R. Mathieson, A.M.E.U. Secretary; J. E. Teckoe Jr., N. A. Grandfield, G. F. Hutcheson, F. D. Washburn, R. S. Reynolds, Harry Foy, H. A. Howard, Ray Pfaff, M. W. Rogers and N. J. Douglas.





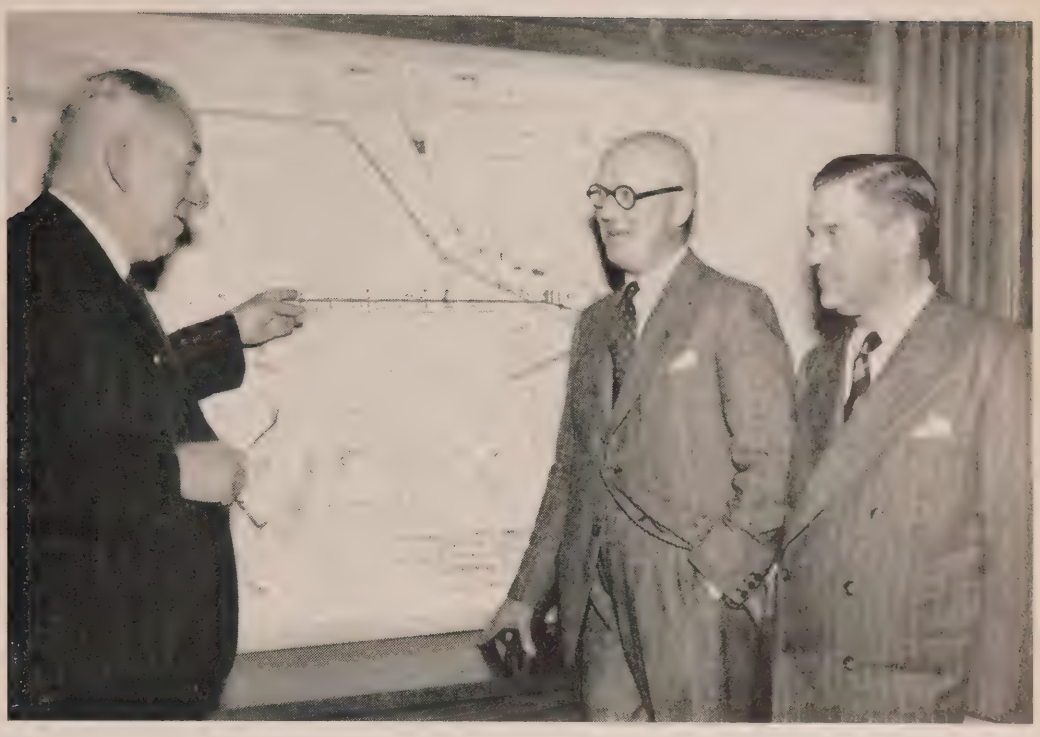
Joint Commission —Members of the International Joint Commission, which deals with boundary and water problems between Canada and the United States, met October 5 for their first Toronto meeting in many years. The group inspected Hydro's Niagara River model at the Commission's A. W. Manby Transformer Station and Service Centre. Shown in this picture with Hydro Chairman Robert H. Saunders are the members of the Canadian and American sections of the International Joint Commission. Right to left they are: J. L. Dansereau, of Montreal, publisher of La Presse; Roger B. McWhorter of Washington, D.C., General A. G. L. McNaughton, Chairman of the Canadian section; Chairman Saunders, Senator A. O. Stanley, Chairman of the United States section; George Spence of Regina, and Eugene W. Weber of Washington.



New Plant — Industrial expansion in Eastern Ontario was given further impetus recently when the first sod was turned for a new Canadian Industries Limited plant at Maitland, between Brockville and Prescott. The plant which will manufacture the basic chemicals used in making nylon will be the largest single project yet undertaken by C-I-L. Officials of the company have announced that the new industry will employ 600 persons and will use one and a half times as much power as the nearby Town of Brockville. Reeve J. T. Hanna, Augusta Township, turns the first sod in the photo on the left. With him, left to right, are Herbert H. Lank, Vice-President of C-I-L; Arthur T. Fell, who will be manager of the new plant when completed, and H. Grenville Smith, C.B.E., C-I-L President.

Visits Canada

onald Bailey, inventor of the "Bailey
e", used extensively by the Allied
s during the Second World War, and
ntario Hydro in many of its postwar
ts. arrived in Canada from England
ly on a five-week tour. Accompanied
P. Muntz, Consulting Engineer, and
Commission representatives, Sir Don
itinerary includes not only several
ng engagements but visits to a number
tario Hydro's projects, such as the Otto
n and Des Joachims Generating Sta-
as well as the Richard L. Hearn Gen-
g Station in Toronto. The photo on
ght shows the famed inventor, centre,
Mr. Muntz and Chairman Robert H.
ers during a visit to the A. W. Manby
former Station and Service Centre,
o.





Mark First Anniversary —Ontario Hydro's Standards Committee recently held its first formal luncheon to mark completion of a year's work. Appointed in 1950 to standardize, wherever possible, all materials, equipment, and supplies purchased by the Commission, the committee reported last month it had standardized 951 items to date. Head-table guests, left to right, are M. G. Fiegehen, Supply Control; C. B. Sharpe, Operations; Dr. Otto Holden, Assistant General Manager—Engineering; Committee Chairman R. B. Young, Assistant Director of Research; Vice-Chairman F. H. Chandler, Electrical Engineering; C. C. Boyle, Secretary of the Committee, and W. I. Taylor, Generation.

NEW PENSION PLAN

(Continued from page 12)

available to employees not scheduled for immediate retirement, the plan suggests increased joint contributions from both the local commission and the employees. In this connection the commission would purchase a further Service Annuity "C" benefit equivalent to ⅓ of 1 percent of the reported salary of the employee concerned while the employee would buy an additional Income Annuity "D" at an approximate cost of 2½ percent of his monthly salary. Under the revised plan the cost to the commission would average approximately 2½ percent of its total payroll while it is further estimated that the pension of an employee with 30 years' service would be approximately 60 percent of his salary at the time of retirement.

More Equitable

Under the existing plan, local commissions which are participating in the Joint Deposit Account contribute $3 for each $1 contributed by employees (exclusive of Past Service Benefits). The ratio of commission to employee payments for any system included in the new plan would be approximately two to one, resulting in a more equitable distribution of costs.

Dealing with the more complex problem of minimum pensions for employees due for more or less immediate retirement, the supplementary plan provides for a minimum pension of $85 a month for an employee with a minimum of 20 years' service at the age of 65 years. Other minimum pensions are also available under the new plan which suggests an alternative pension of approximately 40 percent of the employee's average annual earnings during the last 10 years of service.

Government Pensions

The summary indicates the fact that the plan for a minimum pension of $85 a month at 65 takes cognizance of the projected government pension of $40 a month at 70 without a means test. Thus when the retired employee reached 70, the minimum under the Hydro plan could be reduced accordingly with the government pension supplementing the deduction.

"While on the surface it may appear costly," the brief states, "in all cases, it certainly would be more humane than the retirement of old and faithful employees on any amount less than the $85 suggested."

Pointing to the flexibility of the proposals, Directors of the Plan stress the fact that any commission has the privilege of adopting the supplementary plan without including the provision for a minimum monthly pension or selecting the minimum monthly pension it deems desirable.

"There is nothing obligatory in these proposed plans; they, in no way, alter the insurance feature of the present plan, but merely suggest improvement of the present plan at the will of the individual commissions."

WATERLOO EXPANSION

WATERLOO'S plan to spend $120,000 on expansion and rehabilitation of its electrical distribution system has been approved by Ontario Hydro.

The two-year program calls for construction of a 2,000 kva substation at a cost of $40,000. The remaining $80,000 will be spent on additions and improvements to existing facilities.

Present surplus funds of $20,000 and a debenture issue of $100,000 will finance the project, Chairman W. H. Gleiser of Waterloo Public Utilities Commission announced recently.

COMPLETE UNDERSTANDING

(Continued from page 6)

the ensuing year: Hon. President, Walter Dixon, Arthur; President, W. E. Theaker, Paisley; First Vice-President, H. E. Robertson, Barrie; Second Vice-President, Lt. Col. A. A. Kennedy, Owen Sound; Secretary-Treasurer, Robert Butter, Owen Sound; Directors: C. J. Halliday, Chesley; Joseph Bull, Collingwood; W. J. Cross, Hanover; R. S. King, Midland; Stan. Coates, Orillia; R. W. Jupp, Huntsville and G. W. Deegan, North Bay.

Murray C. Hendry

RECOGNIZED as an authority on river flow, water supply and storage problems, Murray Calder Hendry died recently at his Toronto home. He retired only two months ago after nearly 30 years as a hydraulic engineer with Ontario Hydro.

A native of Toronto, Mr. Hendry was the son of the late Andrew Hendry, a former principal of Parkdale Collegiate. He was a graduate of that school and the University of Toronto.

In 1919, Mr. Hendry was placed in charge of the Hydro's surveys and investigation of the International Section of the St. Lawrence River and he played a prominent role in the preparation of the report to the International Joint Commission in 1921.

Almost until his retirement Mr. Hendry took part in the Commission's further investigations into the St. Lawrence problem. Recently, also, he was responsible for the extension of snow surveys and the forecasting of water supply throughout the province.

Devoted to his work, Mr. Hendry was also interested in the history of pioneer exploration in the Great Lakes area. A Mason, he was a life member of the Canadian Engineering Institute and a member of St. George's United Church.

Besides his widow, the former Grace Heller, he leaves his mother, Mrs. Andrew Hendry, and three sisters: Edith, Hazel and Mrs. James Britton.

Classified Ads

POSITION VACANT

The Hydro-Electric Commission of North Bay invite applications for the position of Manager of their Commission. Applicants should have some experience in electrical distribution, particularly as it applies to a Public Utility. Membership in the Association of Professional Engineers is essential. Applicants should state age, experience and qualifications in the first instance and enclose any pertinent references. Salary is open but will be commensurate with experience and ability.

All applications should be addressed to:

O. W. HARRIS, Secty.-Treas.
HYDRO-ELECTRIC COMMISSION
OF NORTH BAY
Box 69, NORTH BAY, ONTARIO



WELCOME

to their

ROYAL HIGHNESSES

THE PRINCESS ELIZABETH AND THE DUKE OF EDINBURGH

There will be much for them to view with wonderment. But, of all they see and hear, nothing will compare with the demonstrations of Canada's devotion to the Throne they represent so graciously.

ONTARIO HYDRO

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO



"Praise be to you, O hills,
that you can breathe
into our souls the secret
of your power."
—Richard Hovey, *"Comrades"*

HYDRO News



VOL. 38 NOVEMBER, 1951 NUMBER 11

HYDRO News

VOLUME 38 NOVEMBER, 1951 NUMBER 11

Published by

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 University Avenue, Toronto

Honor Hydro Engineers

IN recent weeks Hydro has chronicled two events that are unique in its 45-year history.

On October 26 Premier Leslie M. Frost of Ontario officially opened Canada's largest steam plant—the Commission's Richard L. Hearn Generating Station in Toronto. Then three weeks later on November 16, Hydro Chairman Robert H. Saunders officiated at the inauguration of Hydro's second main steam plant—the J. Clark Keith Generating Station at Windsor.

As Premier Frost pointed out in his address at the opening of the Toronto station, these new plants represent a new venture for the Commission—the integration of steam-generated power with the overall hydraulic resources of the province.

But, equally significant is the fact that these new stations have been named in honor of two men who are pre-eminent in the engineering profession in Canada.

For Richard L. Hearn, the Commission's General Manager and Chief Engineer, this latest honor, to use his own words, "is the climax of some 39 years of service in the engineering and construction fields in all parts of Canada and the United States." Mr. Hearn's first association with the Commission dates back to 1913. In 1921, he went to the United States to become Assistant Chief Engineer with the Washington Water Company at Spokane. Subsequently he became Chief Engineer and Secretary-Treasurer of H. G. Acres and Company at Niagara Falls. He also served as Chief Engineer with H. F. McLean Ltd. In 1942 he rejoined the Commission, and for the next two years was on loan to Polymer Corporation directing the construction of the synthetic rubber plant at Sarnia. During 1945 he was again on loan to the Public Utilities Division of the Combined Production and Resources Board in Washington as Canadian technical adviser. In 1947 his wide experience and abilities as an administrator and engineer were recognized in his appointment to his present position as General Manager and Chief Engineer of Ontario Hydro.

Another notable record is that of J. Clark Keith, who as General Manager of the Windsor Utilities Commission has guided that city's electrical development since 1935. Mr. Keith first became associated with this progressive Western Ontario municipality in 1920 when he was named Deputy Chief Engineer of the Essex Border Utilities Commission. As a member of the Royal Commission appointed to deal with the problem, Mr. Keith also took an active part in the amalgamation of East Windsor, Walkerville, Windsor and Sandwich.

A determined champion of public causes, he played a prominent

(Continued on page 24)

THE COMMISSION

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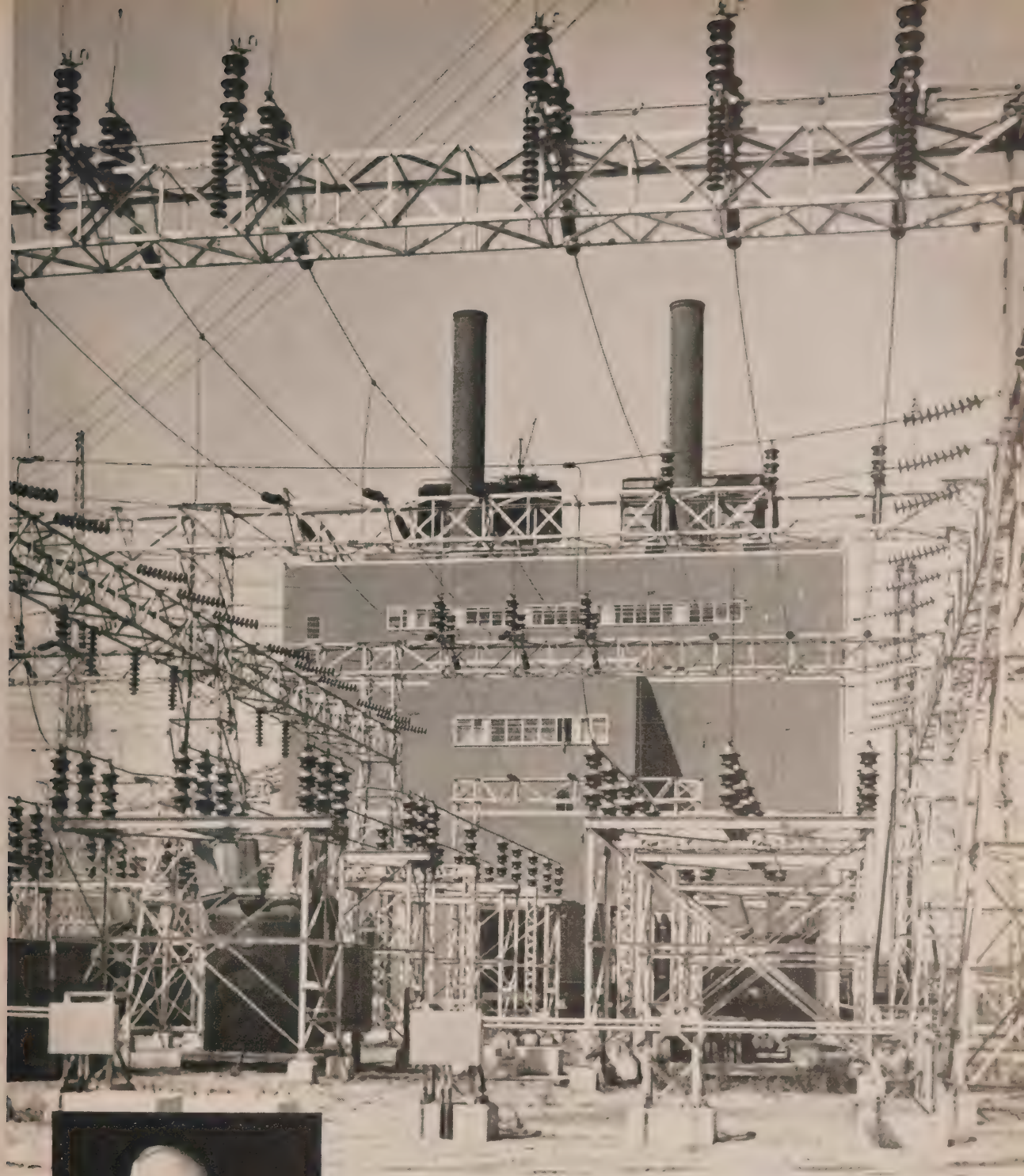
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COVER PHOTOS

MEMORIES of the visit of Their Royal Highnesses, Princess Elizabeth and the Duke of Edinburgh are still fresh in the minds of many Canadians. To Hydro Photographer J. Burt Helling goes all credit for the unusual news portrait which appears on this month's front cover, as well as the back cover photo which shows the Royal Couple passing the Commission's flag-and-bunting bedecked Head Office building en route to Toronto's Hospital for Sick Children.

NOTE TO EDITORS: Material published in Hydro News may be reprinted without permission. Photos or stereos will be forwarded on request



— Photograph by J. Burt Helling



VIEWED THROUGH the lattice-work pattern of switching gear, the J. Clark Keith Generating Station at Windsor is a soaring symbol of Ontario Hydro's great expansion program. Officially opened on November 16, and named in honor of J. Clark Keith (left), General Manager of Windsor Utilities Commission, the station will have a four-unit total installed capacity of 264,000 kilowatts (354,000 horsepower.)



NEW EXECUTIVE of District 7, O.M.E.A., elected during meeting at Woodstock, includes P. R. Locke, St. Thomas, left, and J. Bevan Hay, London, who were named Directors of the district group. Delegates elected H. R. Henderson, Woodstock Commission, centre, as President for ensuing year.

NO CUTOFFS — NO RESTRICTIONS

Encouraging Prediction Made by Hydro Chairman Saunders At Dist. 7 O.M.E.A. Meeting

"IT is our hope at Hydro that, barring unforeseen circumstances, we shall be able to carry through without cutoffs or restrictions despite ever-increasing loads!"

This encouraging prediction was made recently by Chairman Robert H. Saunders in addressing a meeting of District 7, Ontario Municipal Electric Association at the Golf and Country Club, Woodstock.

Dealing with loads which he described as "terrific", Mr. Saunders pointed out that power demands in Ontario today are "running some 15.5 percent higher than last year."

The speaker commended Hydro's engineers and staff of some 22,000 workers "who have been doing a marvelous job of looking after the needs of the province."

"Right today, in other countries, they are having serious trouble. But, we in this province, with increases in power demands greater than those faced by any public utility in the world are getting by."

Ontario's Prosperity

These increased demands, Mr. Saunders said, reflected Ontario's present prosperity. "We also have an extremely high standard of living for which we all should be extremely grateful, and for which we should be very happy to have a part in maintaining," he added.

In addition to taking care of present demands, Hydro was also looking ahead, the Hydro Chairman stated, referring to the official opening of the Richard L. Hearn and J. Clark Keith Generating Stations in Toronto and Windsor.

"Those plants were built to take care of what we believed would be a tremendous peak load, but it is apparent now that we will have to operate them for much longer than peak periods."

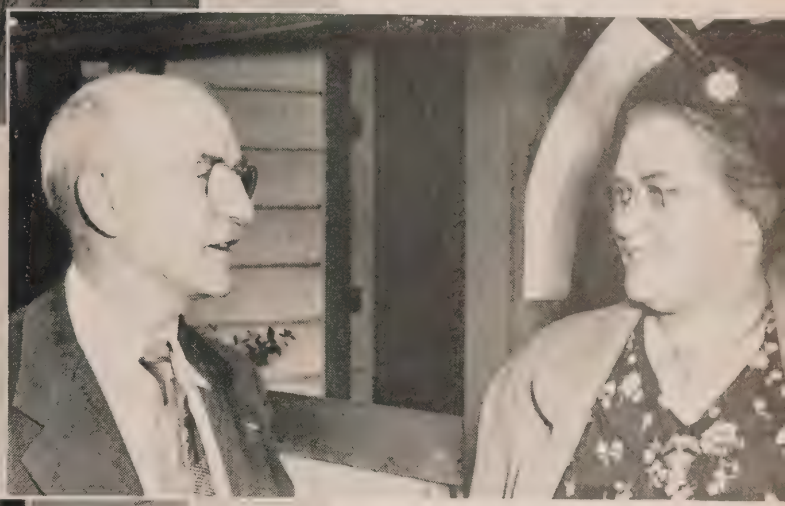
In 1954 the Sir Adam Beck development at Niagara would bring in some 300,000 horsepower and another 300,-

(Continued on page 18)



TWO LUCAN DELEGATES, Commissioner H. E. Lankin and Mrs. I. H. Gibson, Secretary local commission discuss agenda of Dist. 7 meetin

A. W. MANBY, Hydro's Assistant General Manager—Administration, left, was making an interesting observation when this photo was taken. Group with him includes, left to right: Russell M. Laurie, Manager, Western Region, H.E.P.C., Harry G. Hess, W. Ross Strike, K.C., 2nd Vice-Chairman, H.E.P.C., H. E. Lankin, Lucan.





LEFT—Hydro News failed to get in on the joke which this trio, l. to r.: Milford Merner, W. C. Salmon, Dashwood, and Milfred Schilbe, Zurich was enjoying when the photographer caught up with them. BELOW—In more serious vein, R. M. Laurie, H.E.P.C., discusses plans for advanced frequency standardization program at Woodstock with C. E. Kirkby, extreme left, Glenn Sanderson, both of Woodstock P.U.C., D. M. Seath, Ingersoll P.U.C. and J. W. Peart, St. Thomas





Hydro Night at Dundas

OPENING fall dinner meeting of the Dundas Board of Trade, on October 18, which was designated as "Hydro Night," was featured by a record attendance.

Commenting on the overflow attendance, President Hugh Walker of the Board of Trade said that it obviously indicated a real interest by members in Hydro affairs. This opinion was voiced also by D. P. Cliff, a Past President and former Mayor, who is President of the O.M.E.A. and Chairman of Dundas P.U.C.

Among the distinguished persons present at the meeting were Mayor John Don and County Judge John S. Latchford, a newcomer to Dundas. Guest speaker was Charles G. W. MacIntosh, of the Commission's Public Relations staff, who spoke on "Hydro's Expansion program and the new Sir Adam Beck-Niagara No. 2 power project." Prior to the address, an interesting informative movie, "Niagara the Powerful," was shown by William A. Wall, of the Commission's Public Relations staff.

SARNIA RATES UP

SARNIA Hydro-Electric Commission rates were increased recently by the following percentages, domestic, 10 percent; commercial, 12.1, and power, 8.

Domestic customers will now pay a three-cent rate for the first 60 kilowatt-hours, instead of 2.8 cents, and for additional consumption, 1.2 cents instead of one cent.

For commercial customers, rates are up from 2.3 cents for the first 100 hours and 0.5 cent above that, to 2.5 and 0.8 cents respectively. Power customers will be charged $27 per horsepower instead of $23.

MORE GALT CUSTOMERS

By the end of the present year, General Manager N. A. Grandfield estimates Galt Public Utilities Commission will be serving approximately 6,500 hydro customers. During the past few years customer growth has increased steadily. In 1948, customers of all classes totalled 5,671. By the end of 1950, this figure had reached 6,035.

FIXED PAYMENT

SUDBURY Hydro-Electric Commission has approved a fixed annual payment of $2,281.67 to the city for the next three years, in lieu of municipal taxes, under a plan submitted by Mayor W. S. Beaton, Commissioner.

As a public utilities body, the commission is not legally liable to pay taxes, but it has been doing so at the rate of $1400 to $1500 a year, covering (1) Sub-Station properties, Warehouse and (2) residential properties in Business section being held by the Commission for a Utility Building site. This new agreement is, of course, subject to approval by the Ontario Municipal Board.

OPERATING PROFIT

An interim net operating profit of $38,019 for the first nine months of this year was reported recently by Galt P.U.C.

General Manager N. A. Grandfield stated that the Hydro Shop showed an operating profit of $9,741 during this period.

E. V. Buchanan to Retire

GENERAL Manager of London Public Utilities Commission for the past 37 years, E. V. Buchanan will retire from active service January 1, 1952. He will be succeeded by Vernon A. McKillop, present Assistant General Manager.



Mr. Buchanan will not reach the regular retirement age of 65 until May 6, but until then will be on leave of absence to enable Mr. McKillop to supervise plans and budgeting for his first year of management.

After May 6, Mr. Buchanan may continue as Consultant to the London Commission, with which he has been associated for more than 40 years.

HARROW DEMANDS UP

Normal growth of the town is cited as the reason for Harrow's steady increase in power demands during recent months. In August the peak demand reached 826.5 kilowatts, compared with 798.6 kilowatts for the same month in 1950.

SUSPEND TANK RENTALS

Hot water tank rentals have been suspended by Sarnia Hydro-Electric Commission owing to an overflow of orders. Manager Claude L. McMann reported to the commission recently that 1,578 heaters were installed in Sarnia homes, some being rented at a flat rate and others purchased outright. The commission had been losing money on some rentals, Mr McMann stated.

A Lasting Tribute



East York Honors Memory of Albert Jennings in Officially Opening New Hydro Headquarters

PERPETUATING the name and memory of the "Father of Hydro in East York," the Albert Jennings Memorial Building—new headquarters of the township's Hydro commission—was officially opened and dedicated on October 31.

The formal inauguration of this modern, public building was marked by a simple but impressive ceremony attended by federal, provincial and municipal officials, as well as Ontario and municipal Hydro representatives.

Cutting the symbolic ribbon, Ontario Hydro Chairman Robert H. Saunders paid glowing tribute to Albert Jennings' long record of service to East York and its progressive Hydro system.

"He was one of the truly great servants of Hydro and the people of his community," the guest speaker stated. "In life, his energy and his time and talents, as well as his unique personality, found expression in the spirit of enterprise and progress associated with the onward march of East York."

Reeve Harry Simpson of East York, who introduced Mr. Saunders, expressed the municipality's sincere appreciation of the far-reaching contribution Mr. Jennings had made to the community during his life.

The new building, Reeve Simpson said, was one of Mr. Jennings' "dreams" for many years. While citizens of East York, particularly the members and staff of the local commission, were proud of the new Hydro headquarters, their pride was tempered by a feeling of regret that "Albert" had not lived to see it completed and serving the municipality he loved.

Chairman Saunders recalled that Mr. Jennings' career of public service covered a period of 40 years. In 1911, for instance, he headed a committee which ultimately succeeded in bringing power to the York Townships for the first time. Then in 1926, when East York Township Hydro-Electric Commission was established, he became its first Chairman, serving in this capacity for over 20 years.

"It would, I am sure, be his wish that we remember, also, the efforts of those who served with him in helping to promote the growth of Hydro and the development of East York," the Hydro Chairman stated.

In this connection, Mr. Saunders mentioned that the East York Commission in 1926 acquired assets totalling approximately $411,000. Today, the assets of this commission were valued at $1,908,907—almost a five-fold increase over 1926.

"I think it reflects the highest credit upon the late Albert Jennings and his associates here that East York Hydro Commission was free of debt in 1945—five years before maturity of the debentures issued to pay for the assets obtained from Toronto in 1926."

Referring further to the steady ex-

(Continued on page 20)



ABOVE: Hydro Chairman Robert H. Saunders cuts the ribbon and officially opens the Albert Jennings Memorial Building, new home of East York Hydro Commission. With the Hydro Chairman on the platform are, left to right — James Wickiam, Superintendent, and Charles Legg, Commissioner, East York Hydro; Miss Agnes MacPhail, ex-M.P.P., York East; Charles Ellerbeck, Commissioner, East York Hydro; Reeve Harry Simpson, East York Township; R. H. McGregor, M.P., York East, Rev. G. S. Scovell, Rector, Church of the Resurrection, East York; Loftus H. Reid, Chairman, Toronto Hydro-Electric System; and Melvin A. Gough, Secty., East York Hydro.



LOOKING PARTICULARLY PLEASED with their new surroundings, these three young ladies posed for the photographer in the modern billing room. Left to right, are: Barbara Troke, Betty Lou Fowler and Joan Chamberlai







ABOVE: This photograph indicates the interest manifested in the opening ceremonies which were held in the general office section of the new building. LEFT: Following the inauguration and inspection of the new building, guests adjourned to nearby Fantasy Farm where the East York Hydro Commissioners were hosts at a buffet supper.



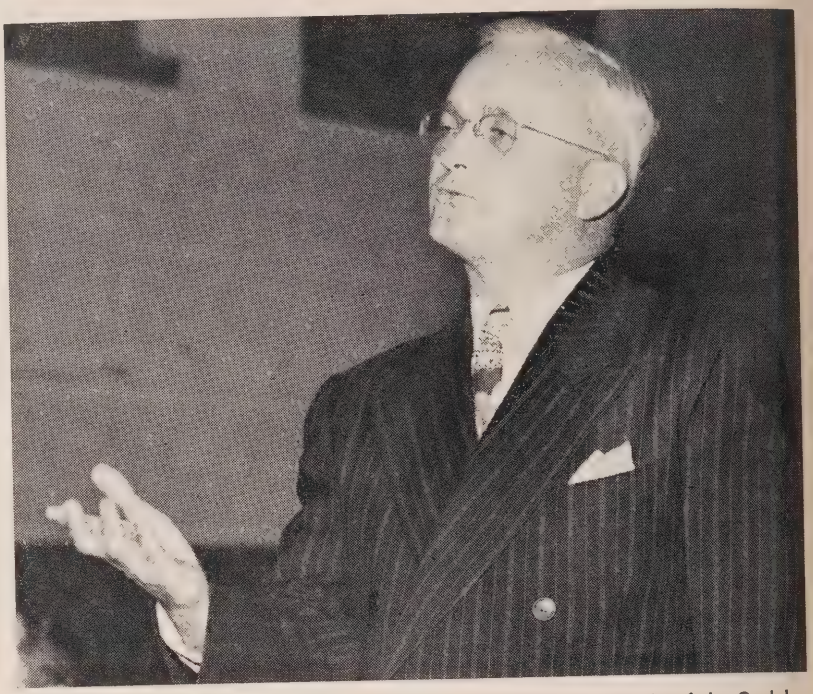
In the specially-designed meter repair room, Supt. James Wickiam, right, discusses a technical point with Repairman Frank Dainty. East York serves 16,152 domestic, 698 commercial, 91 power customers.



PLAQUE in memory of East York's "Father of Hydro" in lobby of new building is admired by Chairman Saunders and Mr. Jennings' daughters, Mrs. J. S. Corbett, Miss R. Jennings and Grandson H. Jennings.

Centralized Insurance Program

Ontario Hydro Studying Proposal To Handle Fire Insurance For Municipal Commissions In Toronto, W. Ross Strike Tells District 6 O.M.E.A. Delegates At Listowel Meeting



GUEST SPEAKER at the District No. 6 convention was Judge Roy Austin of the Guelph Family Court. Judge Austin's address was entitled "Growing Up." Other speakers included Hydro Chairman Robert H. Saunders and Second Vice-Chairman W. R. Strike.

HANDLING of fire insurance on their property and equipment by individual municipal utilities commissions, as an alternative to a proposed "blanket" coverage through Ontario Hydro in Toronto, was proposed by W. Ross Strike, K.C., Hydro's Second Vice-Chairman, at the annual convention of District 6 O.M.E.A. held recently at Listowel.

Mr. Strike pointed out that this was a matter for the municipalities to decide, and that Ontario Hydro would do its best to carry out the decision of the municipalities in this regard.

But he suggested that the local commissions might find it an advantage to take an active part in the business development of their own communities in this and other ways.

Study Problem

Mr. Strike said that Ontario Hydro was making a study of the problems in connection with fire insurance as proposed in a resolution adopted by the O.M.E.A. at its last convention and was working with the Insurance Committee of the O.M.E.A.

D. P. Cliff, President of the O.M.E.A., and Chairman of the Dundas P.U.C., said that the O.M.E.A. Insurance Committee had been studying losses incurred and premiums paid by each municipality over the past 10 years. On completion of the study, he said, the Association would be better able to make a decision on the fire insurance question.

The matter was left in abeyance following considerable pro-and-con discussion among delegates.

Cut Down Waste

What's the difference between "conserving" power and "not wasting" it?

How best could the management of municipal Hydro utilities in Ontario educate customers so that not a single kilowatt was wasted?

These questions formed the basis of luncheon table talk at Listowel.

They were given special emphasis by Ontario Hydro Chairman Robert H. Saunders, who was special luncheon speaker at the convention. Mr. Saunders urged that a concerted attack on electric power waste by every citizen of Ontario be given prominence during the next few "difficult" months.

"By checking wasteful use of power," the Chairman pointed out, "the people of Ontario can allow their Hydro to maintain the supply of power to essential and defence industries with a minimum of interruption."

Mr. Saunders reminded delegates that the next three months were likely to be difficult ones, because demand was increasing heavily now. But, when the Commission's Otto Holden Generating Station on the Ottawa River and its two steam generating stations at Toronto and Windsor commenced initial deliveries of power later this year, "we should be out of the woods," the Hydro Chairman predicted.

However, to help until Christmas at least, citizens should give the matter of avoiding power wastage careful consideration, he said.

"The people of Ontario are heavy users of low-cost electric power supplied in abundance by Hydro," Mr. Saunders went on. "As a matter of record, we use more electric power per capita here than the people of any other community on earth. This sometimes leads to carelessness in using this wonderful and abundant resource."

Power "conservation", by definition,

(Continued on page 18)

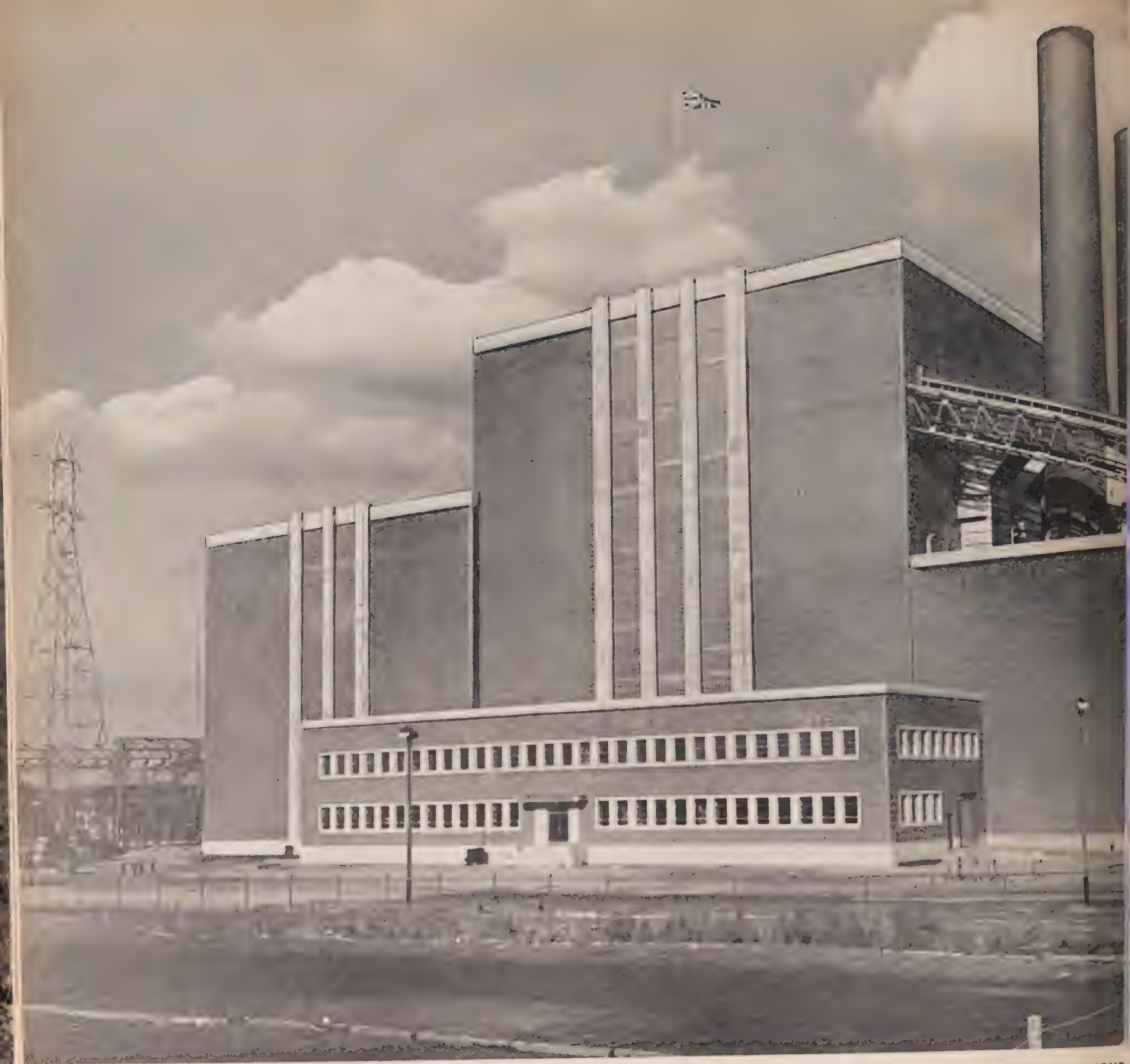
NEW EXECUTIVE for District No. 6 O.M.E.A. Left to right. Front row—A. J. Girdwood, Guelph, Vice-President; C. K. Merner, New Hamburg, President; and A. H. Roth, New Hamburg, Treasurer. Standing, l to r—Dr. H. A. Mutton, Mitchell; T. J. Moffatt, Listowel; A. E. MacIntyre, Stratford, and G. W. Gordon, Kitchener, Directors. Special feature at afternoon session was technical forum presented by Hydro's Research Div.



A TRUE picture of concentration—Charlie Schneider of Tavistock, forsook the conventional violin and entertained the guests with a musical-saw solo.



THIRTY-THREE YEARS of service is the proud record of T. J. Molyneaux, Secretary-Treasurer of Dublin's Hydro System. Mr. and Mrs. Molyneaux were photographed as they chatted with Mrs. A. M. Lobby (right), a member of the Board of Police Trustees.



OVERALL VIEW OF CANADA'S LARGEST STEAM PLANT. THE RICHARD L. HEARN GENERATING STATION, WITH FOUR UNITS IN SERVICE, WILL AUGME

DESCRIBING it as "a very dramatic moment for Hydro and the province," Ontario's Premier, Hon. Leslie M. Frost, on October 26, officially opened the Commission's 536,000-horsepower Richard L. Hearn Generating Station.

Recognized as Canada's largest steam generating station, the massive red brick structure, with its towering 200-foot high chimneys has become an important landmark on Toronto's bustling waterfront.

Tenth new source of power placed in service since Ontario Hydro launched its epochal $880 million expansion program in 1945, the new station bears the name of the Commission's General Manager and Chief Engineer who was cited by Premier Frost as "one of Canada's most brilliant engineers and one of Hydro's most resourceful and efficient administrators."

Initial Operation

The impressive opening ceremonies, with Hydro Chairman Robert H. Saunders presiding, marked the initial operation of the first of four units which will ultimately deliver 400,000 kilowatts to Hydro's Southern Ontario network.

Among the huge throng attending the inaugural event, were government and municipal leaders, captains of industry and commerce, representatives of labor organizations, members of the O.M.E.A. and A.M.E.U. as well as the Ontario Hydro-Electric Advisory Council, and many of the men, who by their labor, made the great plant a reality.

New Phase

Introduced by Chairman Saunders, Premier Frost pointed to the fact that power, heretofore, had been derived from

(Continued on page 14)

DRAMATIC MOMENT

Impressive Ceremony Marks Official Opening of Ontario Hydro's First Major Steam Plant



RC BY 400,000 KILOWATTS OR 536,000 HP.



ABOVE—Officiating at the opening of the new station, Premier Leslie Frost, extreme left, invited Hydro's General Manager and Chief Engineer, Richard L. Hearn, in whose honor the station is named "to press the button and launch this huge mechanism on its career of service." Standing behind Mr. Hearn are Toronto's Mayor H. E. McCallum and Chairman Robert H. Saunders who was Master of Ceremonies. BELOW—Premier Frost presents silver tray to Mr. Hearn as a memento.







NO DOUBT some of the technical features of the plant were being explained when the camera caught Dr. Otto Holden, Hydro's Assistant General Manager—Engineering, talking to E. L. Deitch, Welland.



A GROUP of visitors listen to J. B. Brown, Public Relations Division, Ontario Hydro, as they commence their guided tour of the new generating station. The 536,000-hp. steam plant is Canada's largest.



ARCHITECT'S DRAWING GRAPHICALLY ILLUSTRATES IM





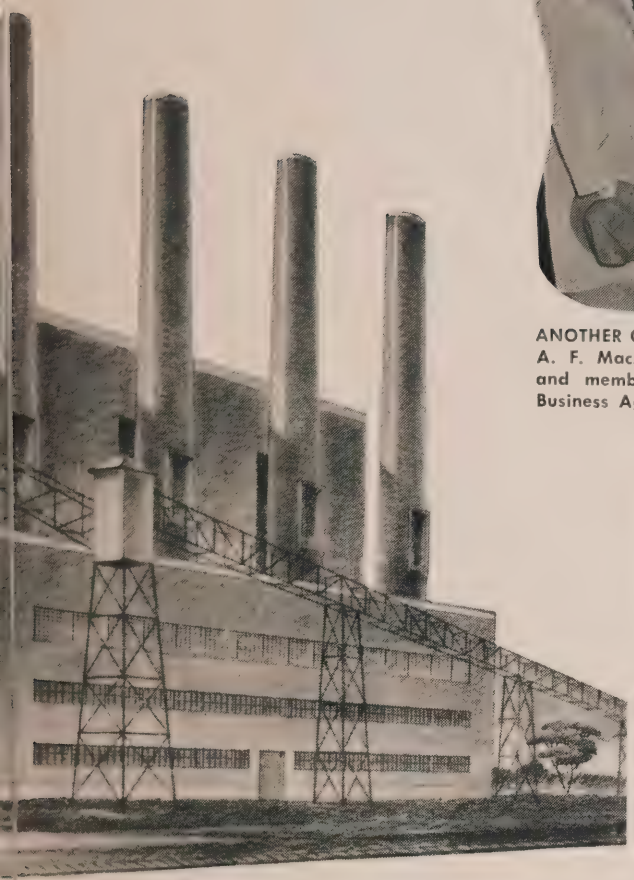
FOLLOWING PRESENTATION of electric clock on behalf of District 4, O.M.E.A., this group, including Mayor McCallum and Bert Merson, Toronto, Chairman Saunders and A. O. Leslie, Scarborough P.U.C. Chairman, watches Mr. Hearn cut into replica of the plant.



INSPECTION WINDOW
of, l. to r.: J. H. Smi
Company Limited; W.
sional Engineers; and



ANOTHER GROUP examines new unit. L. to r.: J. A. Elliott, Ont. Hydro; A. F. MacArthur, Pres., Ont. Prov. Fed. of Labor (T.L.C.-A.F. of L.), and member of Ont. Hydro-Elec. Advisory Council; C. G. Sayeau, Business Agent, Engineers Union, A.F. of L.; and Guide O. R. Swigart.



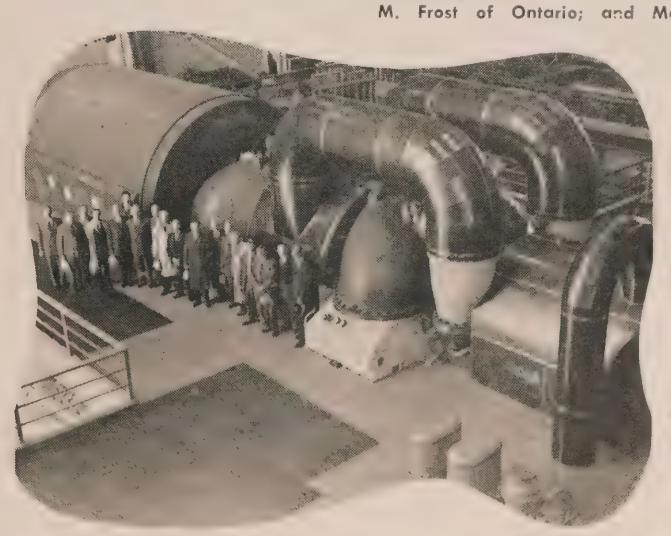
H' PLANT WHEN ALL OF ITS FOUR UNITS ARE INSTALLED.



INSPECTING THE new generating plant, following the opening ceremonies, are, l. to r.: Chairman Robert H. Saunders; Sir Claude Gibb, Managing Director, C. A. Parsons Company Limited; Premier Leslie M. Frost of Ontario; and Mayor Hiram E. McCallum, Toronto.



e:ter attracts interest
naaan General Electric
, Association of Profes-
Dictor of Engineering.



LOOKING DOWN on the giant new unit, the camera caught this group of visitors before they moved on to the next inspection point. This unit has an initial capacity of 88,000 kilowatts (118,000 hp.).





ABOVE—Inspection of the new station followed the official opening ceremonies when this group was found discussing engineering features of the largest Canadian steam plant. The quintet includes, (l. to r.): Richard L. Hearn, E. V. Buchanan, General Manager, London P.U.C.; Sir Claude Gibb, Newcastle-on-Tyne, England, and A. M. Brown, Toronto, Managing Director of C. A. Parsons and Company, and Vice-President and Manager of the Canadian branch of the British firm, respectively, with S. L. Fear, Generation Department, H.E.P.C. RIGHT—Feature of the opening ceremonies was music provided by 48th Highlanders' Regimental Band, Toronto. BELOW—Keenly interested in construction and facilities of the plant are these representatives of the Toronto Hydro System including General Manager H. J. MacTavish, E. M. Ashworth, former General Manager and Chief Engineer, with W. J. Wylie, Director of Consumers Service.





waterfalls and said that the new plant represented a new phase in hydro policy.

"The opening of this new steam generating station marks the beginning of a new venture for the Commission—the integration of the largest central steam plant with the overall hydraulic resources of the province."

Hydro's story was one of continuing progress and leadership, the Premier said, paying tribute to Sir Adam Beck, who "fought a great and successful battle for the people."

"We have had a great line of men since Sir Adam Beck—Magrath, Cooke, Lyon, Hogg and now Saunders—who have given their best to this province as Chairmen of the Commission."

Referring to the ever-growing demands of "an expanding, dynamic province," the speaker pointed out that rural customers were using an increasing amount of power.

"The Chairman also tells me that not less than 22 large new industrial establishments are negotiating for power contracts while a large number of existing industrial customers are asking for more power."

To meet this demand the Commission had other plants and plans in progress, Premier Frost told his audience.

"Today, 2,400 workers are building the biggest generating station ever tackled by Hydro—the new Sir Adam Beck No. 2 plant which is scheduled to develop no less than 700,000 horsepower within the next four years and with an ultimate capacity of 1,200,000 hp. when the second tunnel is developed.

Turning to the question of the St. Lawrence Development, the Premier declared: "At this very

moment these great power resources are runnning freely to the ocean, without benefit to Ontario's people."

The Ontario Government, he said had been working in close co-operation with the Government of Canada and the State of New York and was prepared to go ahead with the job in conjunction with Ottawa.

"We would like our great cousins to the south—the United States—to come into this great task as partners with us. If that great country does not want to come in, then we wish it would continue to follow the good neighbor policy and just stand aside and let us get ahead with it."

Bringing his speech to a dramatic conclusion, the Premier invited Mr. Hearn to step forward and "press the button and launch this huge mechanism on its career of service to the people of our great Province of Ontario."

And as Hydro's General Manager and Chief Engineer pressed the button to officially inaugurate the great station, a huge panel at the rear of the platform bearing the inscription "More Power for Ontario" was suddenly illuminated amid the cheers of the assembled audience.

Introducing Premier Frost, Chairman Robert H. Saunders expressed the belief that October, 1951, "will be chronicled as one of the most historic and significant days in the history of Ontario Hydro."

General Manager Praised

Mr. Saunders also paid tribute to Mr. Hearn as "one of the outstanding engineers of our time on this continent—a man whose record of achievement has brought distinction not only to himself but also to the name of Hydro."

"By reason of the job he has done for the Commission, he has made a tremendous contribution to the progress of this province and to the welfare and happiness of the people."

The Hydro Chairman also thanked those "who had anything to do with the building of this plant on schedule."

"I think of Stone and Webster, our consultants. I think also of Sir Claude Gibb, Managing Director of C. A. Parsons Limited of England who is present with us today. I think of Canadian Comstock Company and Babcock-Wilcox and Goldie McCulloch, of Galt, and all of the manufacturers who contributed to the building of this plant."

The Commission, he continued, was also very aware of the contribution made by the "men of labor."

"The fact of the matter is, the men of labor are the men we should thank today."

57-Acre Site

Pointing to the impressive bulk of the new generating station, Mr. Saunders provided the audience with a brief description of the new plant. The 57-acre site, he said, included storage facilities for 800,000 tons of coal and was accessible to an abundant water supply from Lake Ontario. Each unit, he continued, would use 108,000 gallons of cooling water per minute (155,000,000 gallons per day.) This figure exceeded by 8,000,000 gallons, the highest daily water consumption ever recorded in Toronto's history, Mr. Saunders added.

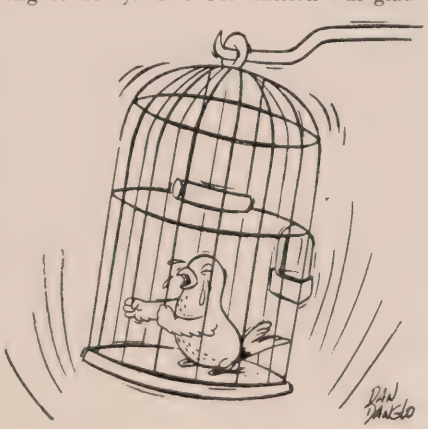
The building itself, 300 by 210 feet, stands on 3,600 compressed concrete piles, each 20 inches in diameter. Each of the four steam generators were 120 feet high (approximately the height of a ten-storey office building) and were fired by coal pulverized to the fineness of talcum powder. Each unit when operated at full capacity, would consume 40 tons of coal per hour while more than 95 percent of the fly-ash would be removed from flue gases before being discharged from the chimneys by the latest smoke abatement equipment.

Initial operation of the Richard L. Hearn station was the first of three new plant openings scheduled for the near future, Mr. Saunders continued.

With power demands reaching record levels, he assured the large gathering that "no stone will be left unturned in the Commission's efforts to make more power available."

Flourishing Economy

The rising power demand, he stated, was the barometer of Ontario's flourishing economy. The Commission was glad to see power demands soaring and that it was reaching a position where it could meet them.



"I'm going mad—do you hear me—mad *mad* MAD!"
—Cosmopolitan.

Dealing briefly with the question of the St. Lawrence development, Mr. Saunders asserted: "It would be a tragedy if the St. Lawrence was barred to us and we were forced to abandon our historic policy of offering low-cost power to all who want it."

The Commission, he said, would not rest until this development with its rich bounty of 6,300,000,000 kilowatthours a year was made available to this province.

A Happy Day

Mr. Hearn, in reply to the honors accorded him as part of the official opening ceremony, stated: "This is a very happy day in my life."

In his capacity as General Manager and Chief Engineer, the speaker said he was constantly aware of the important role of electric power in spearheading the progress of the province and in making a fuller life for the people of Ontario and other parts of Canada.

"The great honor that has come to me in having this station bear my name is the climax of some 39 years of service in the engineering and construction fields in all parts of Canada and the United States."

Referring to Hydro's expansion program, he expressed pride in his association with the Commission which had taken up the challenge of postwar demands and had accomplished a prodigious job.

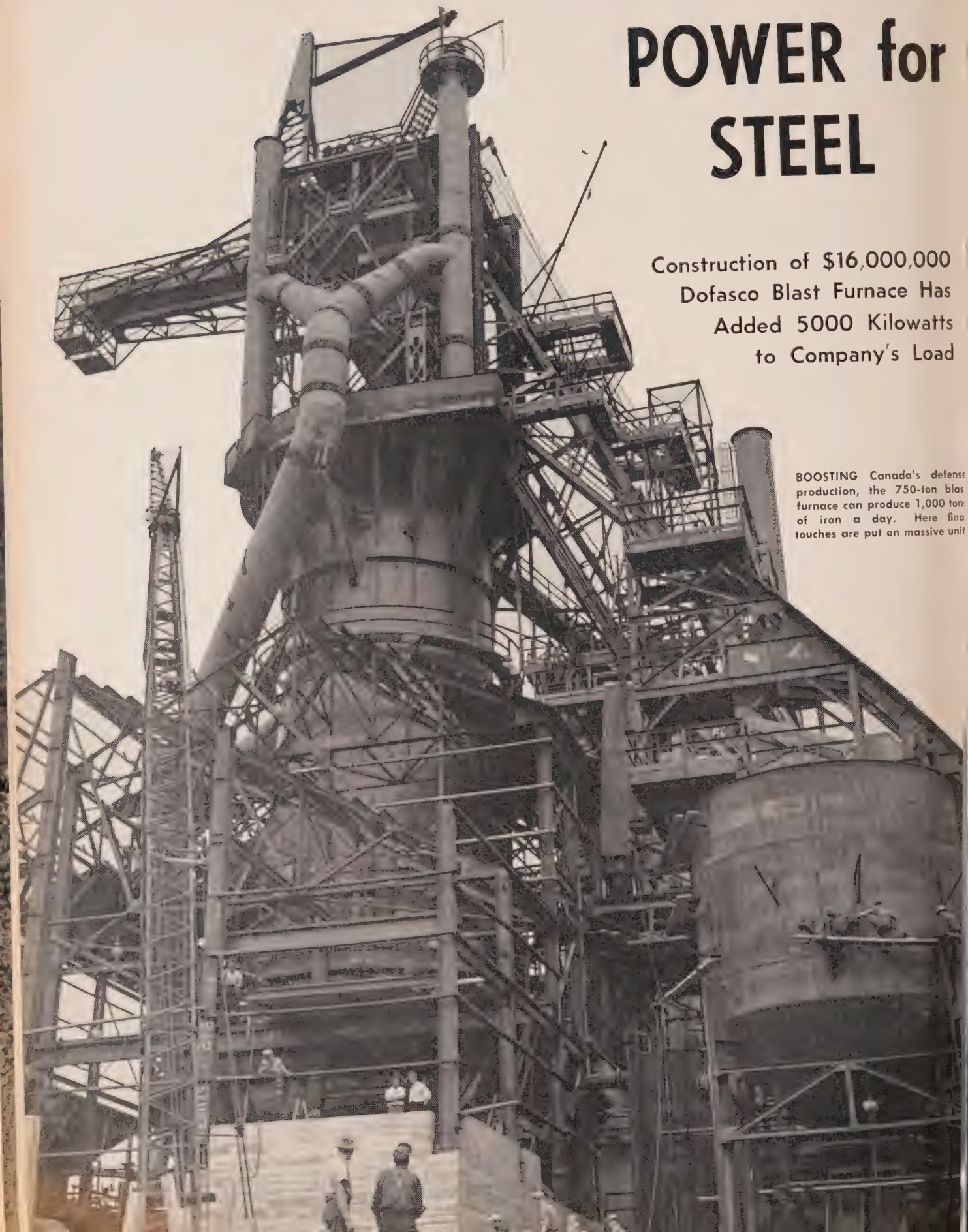
"The entire staff of Ontario Hydro joins with me today in jubilation at the initial operation of this new plant. It is most encouraging to have the expressions of kindness and appreciation which have come my way. At this time, from the bottom of my heart, I wish to thank all those who have been associated with me in bringing this plant into being."

During a brief address, Toronto's Mayor H. E. McCallum congratulated the Commission on its enterprise in building the new plant in Toronto. He also pointed out that construction of the plant was having an important effect on Toronto's employment figures as many Queen City citizens were now engaged in construction or other work at the site of the project.

At the conclusion of the formal ceremonies, the guests were conducted on a tour of the new plant where guides explained many features of station construction and operation.

POWER for STEEL

Construction of $16,000,000 Dofasco Blast Furnace Has Added 5000 Kilowatts to Company's Load



BOOSTING Canada's defense production, the 750-ton blas furnace can produce 1,000 ton of iron a day. Here fina touches are put on massive unit

A $16,000,000 blast furnace unit, capable of producing 1,000 tons of iron a day for Dominion Foundries and Steel Limited's Hamilton plant is now in operation, marking another chapter in Ontario's industrial expansion.

Increased Power Demand

This important addition to the iron and steel industry of the province has added a further 5,000-kilowatt load to the company's power demands.

The company is the fourth largest producer of steel in Canada and operates one of the largest steel casting foundries in the country. A growing lack of scrap metal required in the production of steel prompted the decision to start construction of a blast furnace unit one year ago.

Ore Bridge

The new unit on 140 acres of land which was partially reclaimed from Hamilton Bay will produce iron from ore for use at the main plant. Auxiliary equipment includes a $500,000 unloading and storage dock on the bay, a $1,000,000 ore bridge, a by-product plant for extracting tar and ammonium sulphate, a power and boiler house, an office building, and a high-dock with railway facilities necessary to carry ore, coal, slag and molten pig iron. The 100-foot high furnace will enable the main mill to produce up to 500,000 tons of steel a year, as against a former maximum capacity of 350,000 tons.

The giant 300-foot span bridge, mounted on rails and powered by four 150-horsepower motors, is facilitating the unloading operations from lake carriers at the 800-foot dock. Coal, limestone and ore, essential materials in the production of pig iron, are unloaded at the rate of 900 tons per hour by the bridge's electrically-operated grab-bucket which has a capacity of 12 tons.

In step with the company's expansion and increased production since 1940 has been a tremendous upsurge in its peak power demands. At the beginning of that year, peak load of the mill and furnaces was 15,224 kilowatts. War production brought the peak load in 1945 up to 39,931 kilowatts. By the beginning of 1950 this figure had increased to 51,806 kilowatts as new equipment was added. This year the peak load for the company reached an all-time high of 53,908 kilowatts, more than three times the 1940 load.

New Transformer Station

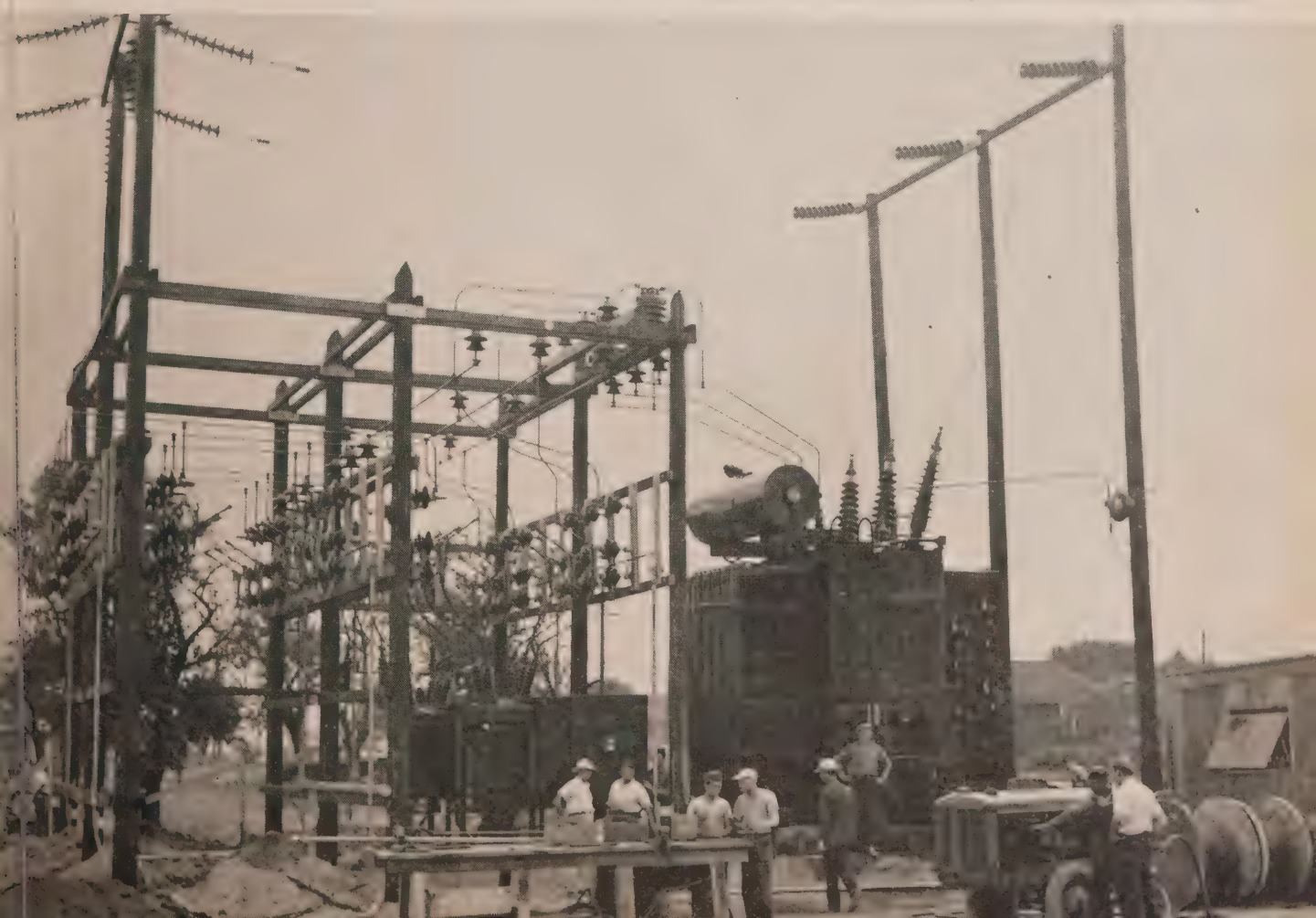
To take care of such increased demands from the industrial area of East Hamilton, now served at 25 cycles, Ontario Hydro has built the Hamilton Kenilworth Transformer station on property adjacent to Dominion Foundries and Steel. The $2,000,000 project, which includes a 100,000 kva, 115/14.2 kv station, will supply 60-cycle power at 13,200 volts to Hydro's industrial customers in that area as well as the Hamilton Hydro Commission.

ALL-TIME HIGH

Hamilton power consumption set an all-time high during September, with a 20-minute peak demand of 175,987 kilowatts, according to General Manager A. W. Bradt of Hamilton Hydro.

Previous high point this year was 173,874 kilowatts, in March. Energy demands totalled 79,678,734 kilowatthours, in September. Average monthly demands to date this year have been approximately 8.9 percent above 1950.

DESIGNED to meet increased power demands at Hamilton, the $2,000,000 Hamilton-Kenilworth Transformer Station was built to supply 60-cycle power to Hamilton Hydro Commission as well as direct customers of the Commission in East Hamilton including Dominion Foundries and Steel Ltd.



NO CUTOFFS — NO RESTRICTIONS

(Continued from page 2)

000 hp. in 1955. In order to make provision for demands in 1956, the Commission also had authorized installation of an additional or seventh unit at this project.

"Looking beyond 1956, we realize that if we do not get an answer on the St. Lawrence within the next few months, then we shall have to look into the question of more steam capacity at greater cost to the people of this province."

"Extremely Hopeful"

But, Mr. Saunders said he was "extremely hopeful" that the Commission would receive definite word within the next few months in view of the "wonderful co-operation we are receiving from Ottawa and from the Ontario Government."

W. Ross Strike, Second Vice-Chairman, urged close co-operation between the local municipal commission and Hydro's Regional Office. By keeping the regional office advised of their operations, particularly in respect to projected load increases, municipal representatives, would enable Ontario Hydro to keep pace with the steadily-mounting demands. At the same time, regional staffs would assist the municipal commissions with many of their problems. The speaker also stressed the extreme importance of making sure that local distribution systems were planned to take care of increasing demands and that orders were placed well in advance to make sure of delivery.

Urges Conservation

Urging intelligent and careful use of electricity, A. W. Manby, Hydro's Assistant General Manager - Administration, pointed out that the Commission had asked the co-operation of the Canadian Manufacturers' Association and the Toronto Board of Trade in reducing non-essential demands of industrial power customers, particularly between the hours of 10 to 12 in the morning and from 4 to 6.30 p.m. The Commission, he said, was making the fullest possible use of all available power. If all facilities remained in working condition, Hydro was hopeful that it would "get by" during the fall and winter months with the co-operation of all customers.

Bert Merson, of Toronto, a member of the Municipal Hydro-Electric Pension and Insurance Committee, outlined supplementary proposals to increase existing benefits for municipal employees eligible for pension in future years, and pensions for municipal staff members due for immediate retirement. This supplementary pension plan, is now available to Ontario municipal Hydro Commissions.

Panel Discussion

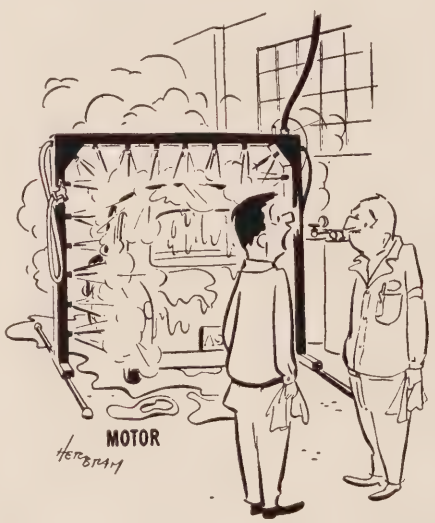
The afternoon session included a question and answer period covering a wide range of municipal and rural Hydro problems. This period took the form of a panel discussion in which W. Ross Strike, V. A. McKillop, London P.U.C., H. R. Henderson, Woodstock, P.U.C., R. M. Laurie, Western Regional Manager, London and J. Bevan Hay, London P.U.C., participated.

MODERN STREET LIGHTS

With a plentiful supply of 60-cycle power assured, Toronto is going ahead with plans to modernize the lighting on its 500 miles of streets. Already 110 miles of city streets have been equipped with new standards and 4,000 units are available to permit the project to continue at an accelerated rate.

NEW BUILDINGS PLANNED

Parry Sound Public Utilities Commission will expend $20,500 from the available funds of its electrical department on the construction of an office, garage and stores building.



"Why, no. Didn't YOU close them?"

CENTRALIZED INSURANCE

(Continued from page 8)

meant turning off the electricity where and when it was not needed.

Avoiding power "wastage" meant using electricity in the most efficient and economical way, he said.

Through a concerted, province-wide, economical use during the next three-month period, Ontario citizens could "get by" with a minimum of industrial and domestic interruption, or perhaps even none at all, the Chairman said.

Industrial Power Cuts

During the afternoon session, A. W. Manby, Hydro's Assistant General Manager—Administration added a word about industrial power to the Chairman's remarks.

"At the present time, power cuts to Ontario's defence plants are a serious matter," Mr. Manby said. "The Canadian Manufacturers' Association has assured us of their support. If consumers in the domestic category, and on the farms, can be induced to conserve power between 10 a.m. and noon and 4.30 to 6.30 p.m. each day until Christmas, it will help a great deal."

Research Problems

A special feature of the convention's afternoon session was the delivery of a series of technical talks describing the operations of Ontario Hydro's Research Division.

Four division representatives—William D. Loucks, Electrical Research Department; Dr. Alan D. Hogg, Structural and Mechanical Research Department; V. Neil Mustard, Concrete Control, and Barney Kellam, Chemical Research Department, discussed studies conducted by their respective departments.

At this session, Mayor O. M. Nickel welcomed the delegates on behalf of the Town of Listowel.

Following the election of District 6 officers for the 1951-1952 term, delegates gathered in the Armouries for a final dinner session. Guest speaker was Judge Roy Austin, Guelph Family Court, whose theme was "Growing Up".

Chairman of the convention was District 6 President, C. K. Merner, New Hamburg.

On Guard

Chief Constable Praises Voluntary Service of Hydro's Security Guards During Royal Visit

JOINING in Toronto's enthusiastic welcome to Princess Elizabeth and the Duke of Edinburgh, 40 of Ontario Hydro's Security Guards volunteered for service when the Royal Couple visited Toronto recently.

At the request of Toronto's Chief Constable, the Commission's smartly-uniformed guards, in company with members of the Toronto police force and military units, did what was described as " a fine job" of handling the cheering throngs that lined University Avenue during the engagement-filled visit of their Royal Highnesses to the Queen City.

Commending these men for their tangible expression of loyalty and goodwill, Chief Constable John Chisholm of Toronto sent the following letter to Col. M. H. Vernon, Hydro's Director of Security:

Dear Sir:

I write to thank you and the members of your fine security organization, for the outstanding and efficient service which they rendered this Department and the City of Toronto, in lining such a vital and important portion of the Royal Route on University Avenue, on the occasion of the recent visit to this City of Their Royal Highnesses, Princess Elizabeth and the Duke of Edinburgh, October 12-13th, 1951.

The appearance and efficient manner in which all members of your Security Detail performed their duty were most noticeable.

Please accept personally, and convey to the Members of your detail my sincere thanks.

Yours very truly,

"J. Chisholm"
Chief Constable.

Further words of praise and appreciation were voiced by His Worship Mayor H. E. McCallum:

Dear Colonel Vernon:

On behalf of the Civic Administration, and the Citizens of the Corporation of the City of Toronto, I wish to take this opportunity to express to every individual, organization, business firm and public service agency, sincere and grateful thanks for their help and co-operation in arranging and carrying out Toronto's successful welcome to Their Royal Highnesses The Princess Elizabeth and The Duke of Edinburgh.

The careful planning and flawless execution of every detail, together with our Citizens' spontaneous and hearty expressions of love and loyalty to the Royal Family made this event one of the greatest in the history of Toronto.

Her Royal Highness has expressed to me the sincere thanks of herself and The Duke of Edinburgh for the wonderful way they were received in Toronto and I am grateful for the co-operation and assistance you and your organization so generously contributed.

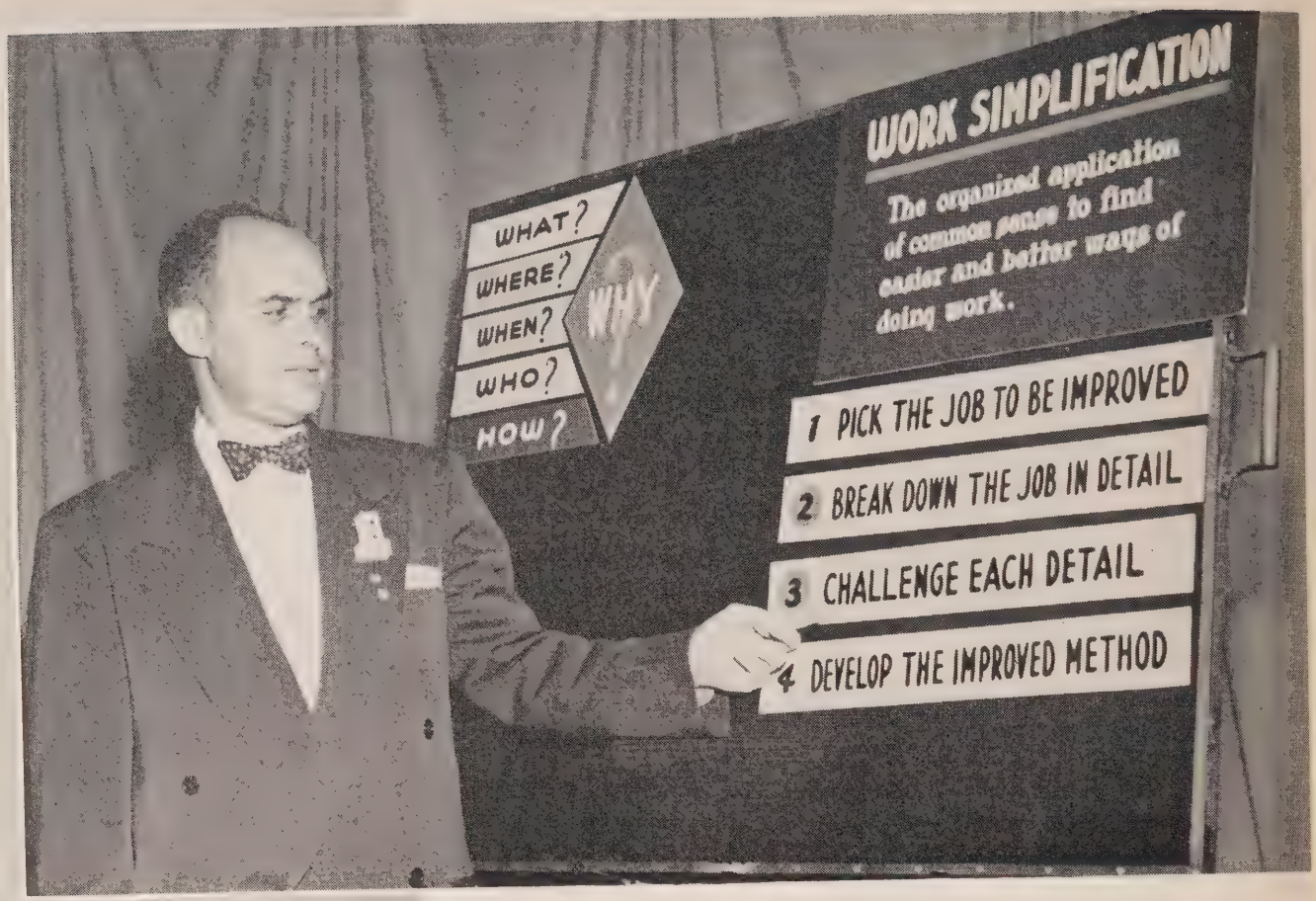
Toronto and its Citizens have reason to be proud of the reception given our Royal Visitors.

Yours sincerely,

"H. E. McCallum"
Mayor



THE DECORATED main entrance of Commission's Head Office provides an arresting background for this view of a group of eager citizens waiting to greet the Royal visitors. In the foreground is one of 40 Hydro Security Guards who volunteered for service with police and military units.



GUEST SPEAKER at the convention was R. L. Montgomery, Supervisor Work Simplification, Methods and Co-ordination Dept., Ford Motor Co. of Canada, Ltd., Windsor, shown here with a specially-constructed "blackboard" which he used to illustrate his talk on work simplification.

How to *Simplify* Work

Ford Motor Company Supervisor Gives Views on Achieving Full Office Efficiency at A.M.E.U. Group Conference

WORK simplification — "the organized application of common sense to find easier and better ways of doing work" — was the theme of a detailed analysis of business office procedure presented by R. L. Montgomery at the annual conference of the A.M.E.U. Western Ontario Division Accounting and Office Administration Committee held recently at London.

Mr. Montgomery, who is supervisor of the Ford Motor Company's Work Simplification, Methods and Co-ordination Dept. at Windsor, told delegates that careful re-organization of office procedures on a "common sense" basis could save money and increase output per wage dollar.

Office Efficiency

His suggestions for achieving full office efficiency, and "for making your office a happy place in which to work", followed a "reform" pattern. Just because work was done in a certain way, it did not mean that it was the best way.

Re-organization, he said, should follow critical examination of six views of the office procedure system. Questions suggested:

1. What is being done in this process? What is the purpose of doing it? Is it absolutely necessary? Could any part or all of it be eliminated or should it stand?

2. Where is it being done? Could a better *locale* be found? Could it be combined with another?

3. When is the operation being carried out? Is that the best time in precedure sequence for it to be done? Are bottlenecks being created because of its place in the sequence? Would a change of position affect efficiency?

4. Who is doing it? Is this worker the best one, aptitudewise, for the job? Could the operation be combined with another for a saving in handling and time?

5. How is it done? Could the work method be improved?

6. "Why" should be asked of each

(Continued on page 24)



ABOVE: General view of the A.M.E.U. Accounting and Office Administration Committee's conference held in London.

RIGHT: Electronic magic is tested by Glenna Machan of the Listowel Public Utilities Commission, shown here trying her hand at a brand new accounting machine displayed at the A.M.E.U. Accounting and Office Administration conference held in London. Looking on are Eileen Ament, Secretary, Listowel P.U.C., and F. D. Washburn of Stratford P.U.C.





OFFICERS OF the Western Ontario Division, A.M.E.U. Accounting and Office Administration Committee face the camera at their convention held in London recently. Front row, left to right—A. J. Whitelock, St. Catharines; J. F. Cook, Windsor, Chairman; E. L. Gothard, Brantford; C. E. Hodgson, Regional Accountant H.E.P.C. London. Standing, left to right—D. J. McAuley, Supervisor, Municipal Accounting, H.E.P.C.; D. N. Durward, Galt; H. F. Parker, Woodstock; C. W. Eastwood, London; and G. E. Conn, Accountant, Niagara Region, H.E.P.C.

Honor East York Hydro Employees— Six staff members of the East York Hydro Commission were recently honored with the presentation of buttons and cheques on completion of 25 years faithful service with that commission. Pictured above with their Chairman, Reeve Harry Simpson, the long-service members hold up their cheques which represented a dollar for each year's service. Left to right — James Wickiam, Superintendent; William Barker, Groundman; David Norman, Groundman; Mr. Simpson; Joseph Hogg, Storekeeper; Hubert Humphreys, Water Heater Maintenance; and Herbert Watson, Cashier. In 1952, according to Commission Secretary Melvin A. Gough, another six East York Hydro employees will be due for this honor — bringing the membership in the quarter-century club to one-fifth of the total staff of the commission.

Photo-news



Royal Guest Of Honor— One of the highlights of the memorable visit of Princess Elizabeth and the Duke of Edinburgh to Toronto was the Toronto Board of Trade luncheon at which Prince Philip was guest speaker. Before his address, a large group of members of the Board of Trade were presented to the Royal guest of honor. In the above picture, Hydro Chairman Robert H. Saunders is introduced by J. Gerald Godsoe, President of the Toronto Board of Trade. Also shown in this picture, to the Duke's left, are Edgar Burton, President, the Robert Simpson Company Limited; D. W. Ambridge, President and General Manager, Abitibi Power and Paper Company; and Harold Turner, President, Canadian General Electric Company Limited.



etirement Presentation— "The Hydro Twins," as J. J. (left) and R. T. ffery were affectionately known in many parts of Ontario for 40 years, retired on ie same day a few weeks ago and were honored with a dinner at Toronto's Granite lub. Here W. Ross Strike, K.C., Second Vice-Chairman of Ontario Hydro, con-ratulates the brothers on their long and faithful service to the Commission. olleagues and friends presented "J. J." with a pair of binoculars, while his brother eceived a handsome twin-lens reflex camera.



Last School— There was no grumbling at Grumble Hill School, Essa Township, when electricity was turned on recently. Little Loretta Hardy, 8, holds a coal-oil lamp of the type that lit the school for 70 years, while Teacher Valerie Dexter explains Canada's parliamentary system. Grumble Hill was the last school to get electric lights under Essa Township's 20-year school electrification program.

Present Bursary— At a recent dinner of the Class of 1937 (Engineering), University of Toronto, Lyon W. Dennison of Egansville, selected by the class members from among eight applicants as the most deserving first-year engineering student, was presented with a $100 bursary. This was the first annual bursary presented by the class. Handing Lyon the cheque is Ross Carruthers, P.Eng., President of the Engineering Alumni Association. On the left are two Ontario Hydro representatives: Douglas R. Malcolm, P.Eng., 1951-52 Chairman of the Class and William Hogg, P.Eng., Assistant Project Engineer at Sir Adam Beck-Niagara No. 2 Development — another class member. J. Vern Leworthy, P.Eng., permanent President of the class, stands at the extreme right.



LASTING TRIBUTE

(Continued from page 5)

pansion of the East York system, the speaker also dealt with the increase in the number of customers. In 1926, some 6,000 customers of all classes were being served, while today that figure stands at approximately 17,000. At the same time, average monthly consumption per home increased from 54 kilowatthours in 1926 to 293 kwhrs. in 1950.

"It is more than a privilege to join with you and to have the honor of officially opening this new building. I know of no finer monument that could have been erected in memory of a man who dedicated the best part of his life to the service of Hydro and his fellow citizens," the Hydro Chairman declared in concluding his addresss.

Dedication Ceremony

Rev. G. S. Scovell, Rector, Church of the Resurrection, East York, officiated during the dedication of the new building. Short addresses were given by East York Commissioners Charles Ellerbeck and Charles Legg as well as Secretary Melvin A. Gough and Superintendent James Wickiam. Greetings were extended to the East York Commission by E. R. Lawler, Manager, Toronto Region, H.E.P.C.; Loftus H. Reid, Chairman, Toronto Hydro-Electric System, and L. E. Shore, representing Shore and Moffatt, Toronto architects, who were in charge of planning and construction of the new building.

Following the formal opening ceremonies, guests were conducted on a tour of the modern structure. Picturesquely situated at the north end of a sunken garden in Memorial Park, opposite East York's handsome municipal headquarters, the one-storey red brick building replaces the Commission's former modest quarters on Sammon Avenue. Representing a striking climax in the local commission's history of continued expansion in the past quarter century, the new headquarters includes offices for Secretary M. A. Gough and Superintendent James Wickiam in addition to a spacious, general office, a specially-designed meter repair room and a soundproof billing room.

Featuring completely-insulated walls and ceiling, the new building is of steel frame construction. Ceilings throughout are of acoustic tile while all windows are of double glass in steel sash treated with a new zinc spray to prevent rust. The necessity for draperies and venetian blinds has been eliminated by installation of a sun screen on the south side of the building.

Birch plywood walls of the entrance lobby have been enhanced by a carved plaque erected in memory of Albert Jennings.

As each guest reached this point in their tour of the new building, they paused momentarily to read the simple inscription and to honor the name of a great citizen.

And so East York chronicled another significant milestone in its history—a milestone which, in the words of Chairman Saunders "heralds an era of still greater achievement in the years to come."

HONOR ENGINEERS

(Continued from index page)

role in Windsor's hospital work for almost a quarter of a century. For distinguished service in the water supply field, he received the George W. Fuller Award from the Canadian section of the American Waterworks Association. In addition, Mr. Keith, in the past few years, has held the presidency in many well-known organizations. Earlier this year his career of public service was climaxed by his appointment to the nine-member Ontario Hydro-Electric Advisory Council.

KILLARNEY STORY IN 'XMAS ISSUE

MANY heart-stirring and dramatic incidents were witnessed at Killarney, Ontario, recently when Chairman Robert H. Saunders touched the switch and officially brought the benefits of Hydro power to the people of that picturesque community on the northern shore of Georgian Bay.

In order that more space may be provided for the pictures and story which, we hope, will capture the spirit of the occasion, the Christmas issue of Hydro News will feature special coverage of this memorable event.

SIMPLIFY WORK

(Continued from page 20)

answer obtained from the above five questions. Don't be satisfied until you answer obtained from the above five questions. Don't be satisfied until you have asked all questions and have obtained the related answers.

Mr. Montgomery pointed out that in simplifying office work, as in other fields of "reform", psychology played a big part. People generally preferred to leave things as they were.

Consequently, he said, it is up to the manager or supervisor to enlist the willing support of the staff in any simplification project undertaken.

He described the practice of the Ford Motor Company, which operates an "indoctrination" system for all employees. Workers were urged to keep new ideas alive, "to keep the green light of the open mind always on, and to be able to analytically approach workable procedures, and reject unworkable ones."

Special guest at the luncheon session was Rev. George W. Goth, B.A., B.D., minister of London's Metropolitan United Church, who addressed delegates on "the re-construction of individual moral character."

Head table guests included J. W. Peart, St. Thomas; R. S. Reynolds, Chatham; C. E. Hodgson, Regional Accountant, H.E.P.C., London; C. W. Eastwood, Office Manager, London P.U.C.; J. F. Cook, Office Manager, Windsor P.U.C., and Chairman of the conference; R. W. D. Lewis, K.C., Chairman, London P.U.C.; E. A. Washburn, Assistant General Manager, Stratford, and Chairman of the A.M.E.U. Accounting and Office Management Committee; D. J. McAuley, H.E.P.C. Toronto; R. M. Laurie, Manager H.E.P.C. Western Region.

Mr. McAuley, who is Supervisor, Municipal Accounting, for Ontario Hydro, addressed delegates at the afternoon session on "Theoretical Financial Operating Reports".

Following the formal sessions, delegates examined the latest office accounting and billing machines on display in the foyer of the Hotel London's banquet suite.

Registration at the conference totalled 161 including delegates from 59 municipalities, five regional offices, six commercial firms as well as representatives of the Commission's Head Office in Toronto.



CHOCOLATE FUDGE

2	ounces chocolate	2	tbsps. corn syrup
1½	cups brown sugar	2	tbsps. butter
½	cup granulated sugar		
⅛	tsp. salt	1	tps. vanilla
¾	cup whole milk	½	cup chopped nuts

Stir chocolate, sugar, salt, milk and corn syrup over electric element on "high" until chocolate and sugar are dissolved. Stirring frequently, cook syrup slowly to the point where it would form soft balls (238 degs.). After removing from the electric element, add butter and vanilla. Pour into the large bowl of the electric mixer and beat at high speed for about 5 minutes. Fold in the nuts and pour into an oiled pan. Cut into squares before it hardens.

Christmas is drawing closer! This year let us make a resolution to tie our Christmas parcels securely for mailing. Another way to ensure early delivery and a better Christmastide for postal employees is to print the name and address plainly on a gummed white label.

* * *

Speaking of Gifts, our neighbor's children are wrapping their parents' presents for a small fee! They have bought large plain sheets of wrapping paper. Then, with all sorts of decorations from last year's Christmas cards, they make a pretty parcel.

* * *

Passing Along a culinary short-cut: Scatter a few peppermint patties over a freshly-baked cake and return it to a warm oven for a few minutes until the patties melt and form an icing over the cake.

* * *

If You Have a bundle buggy or a golf caddy cart you might try storing the cylinder type vacuum cleaner and its attachments in it. Seems to us that either of these gadgets could be put to better use during the winter time.

* * *

Here's a Hint for holding card tables together when you are serving refreshments to a group. Cut strong rubber bands from an inner tube. Just slip the bands around the adjoining legs of card tables.

* * *

Light Scorches can be removed from garments quickly by rubbing surface with a five-cent piece. Hold the material taut when rubbing.

If the Broom is inserted handle downward through the pulls of a series of cabinet drawers in the kitchen it will keep toddlers from spilling the contents.

* * *

Rubber Rings for fruit jars also provide a non-skid surface and are inexpensive. Fasten the rings to the bottom of ash trays, vases, desk lamps and similar items with rubber cement.

* * *

During Busy shopping days prepare foods ahead of time. A gelatine containing cubed cooked meat, grated carrots and cabbage may be served as a main course. A can of hot soup makes a fine first course.

* * *

In Place of cookies or frosted cakes, make walnut bars or brownies to serve with canned fruit for desserts to save time.

* * *

Sweet Chestnuts are a good buy this year. Cover with cold water and bring to the boiling point. Boil for 5 minutes. Drain them and remove shells and skins.

* * *

Butter Fondant is a versatile cream that forms the basis of many kinds of Christmas candy. It can be rolled into balls and dipped in melted chocolate, flavored with coffee, peppermint or maple, or rolled in chopped nuts or desiccated coconut, while its smooth creaminess makes it an ideal stuffing for dates, prunes and nut halves.

* * *

The Bitter-sweet tang makes candied grapefruit peel a favorite. To make: cover thick grapefruit peel with 1 cup water, add a teaspoon of salt and simmer for 30 minutes, then drain. Cut into thin strips, cover with water and simmer again, 30 minutes. When peel is tender add a hot syrup made of 1 cup sugar, 2 tbsps. corn syrup and ¾ cup water. Let mixture cook slowly for another 30 minutes, then drain the pieces on cake rack over wax paper. Sprinkle with granulated sugar.

* * *

A Christmas Dinner suggestion: Combined pineapple and apple juice, baked ham with cranberry sauce glaze, browned sweet potato puff, buttered string beans, relishes, steam fruit pudding with hard sauce, coffee.

* * *

Day-After-Christmas dinner suggestion: Combination of scalloped vegetable topped with bacon, rolls, mincemeat pie and coffee.

* * *

Perhaps You Will see more chicken and turkey livers available around Christmas time. Cooked for 10 minutes in the frying pan and accompanied with curried rice, this makes a delectable supper dish. Serve a tossed salad with it too.

* * *

That Extra Turkey which someone may win at the bowling club should be hung in a cool, well-ventilated place (the garage possibly), without being drawn. It will keep better that way.

* * *

To Eliminate the possibility of mold on cheese, place two lumps of sugar in a covered container with the cheese. This not only keeps mold from accumulating but removes light mold.



HYDRO News



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VOL. 38 DECEMBER, 1951 NUMBER 12



Robert H. Saunders



Geo. H. Challies



W. Ross Strike



R. L. Hearn

Christmas 1951

ONCE AGAIN the enduring message of that First Christmas in the Little Town of Bethlehem is being retold in word and carol. It brings to the wise men of today renewed hope and strength as they go forward in their service to their fellow men, looking ever to the day when the peace and blessings of the Christmas Season may come to all peoples in this troubled world.

And at this time of solemn meditation and great rejoicing, the Commission and management of Ontario Hydro remember the loyalty and service of all Commission employees. They remember, too, those men and women who are faithfully and untiringly serving on the staffs of all local Hydro utilities.

For all members of the great Hydro Family everywhere may this Season be one of great joy and blessing, and may the New Year bring to each and all the fullest measure of happiness as we go forward to ever-widening horizons of service and achievement.

HYDRO News

VOLUME 38 DECEMBER, 1951 NUMBER 12

Published by

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 University Avenue, Toronto

Santa Claus In Our Hearts

MANY of us, even at this busy season of the year, pause to recall our happy childhood days when we—as countless hundreds of youngsters in many lands are doing at this moment—looked forward with eager anticipation to the impending visit of Santa Claus. As we turn over the pages of memory we smile as we remember the repeated warnings of Mother or Father, who cautioned, with upraised finger, "Santa Claus won't come if you're not good!" But he always came, for most of us at least, with his toys and candies which we found stuffed in our stockings on Christmas morning.

Perhaps it was only a fantasy, but it gave us many ecstatic moments, and when we gave up our belief in Santa Claus we found around us a world where worry and trouble existed, a universe populated with many folk who knew poverty and distress.



We discovered, however, that Santa Claus, while not a physical being, should still have a place in our hearts, engendering feelings of compassion and generosity toward our fellow-beings, many of them in less fortunate positions than ourselves.

It is quite true that we answer many calls for assistance, even in these days of seeming prosperity. But, when we are inclined to draw back, let us re-awaken the memories of Santa Claus and the generous spirit of giving that he embodies. Santa Claus bids us be happy at Christmas time—not superficially—but genuinely happy in the realization that we have helped, even in a very small way, to ease the burden of a fellow-traveller.

And in this vein, Hydro News extends its best wishes for a very Merry Christmas and a Happy New Year.

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SIGNIFICANT MILESTONE

J. Clark Keith Station at Windsor Joins Ever-Growing Chain of Hydro Generating Plants in Ontario

ON November 16 Hydro's J. Clark Keith Generating Station at Windsor proudly took its place in the Commission's rapidly expanding system.

With the pressing of a small button, this plant — Hydro's second major steam generating station — was officially opened by Chairman Robert H. Saunders at a special ceremony when the first 88,500-horsepower unit began delivery of 60-cycle power to Southern Ontario.

Perpetuating the name of John Clark Keith — General Manager of Windsor Utilities Commission — the new station will have a four-unit installed capacity of 264,000 kilowatts (354,000 hp) when completed by the end of 1953.

Placed in service just three weeks after the official opening of Hydro's, and Canada's, premier steam station — the 400,000-kilowatt (536,000 hp) Richard L. Hearn Generating Station in Toronto — this new source of power, at full capacity, will be the nation's second largest steam-electric plant.

Four Units

Already the second generating unit is being assembled and is scheduled for operation early in 1952. The third unit, it is anticipated, will be ready for service by November next year, while the fourth has been scheduled for November, 1953. By that date, the station will have cost an estimated $47,000,000.

Located on 110 acres of ground on the southwestern edge of the City of Windsor, the new station will have an immediate, vital function to perform. It will contribute substantial quantities of 60-cycle power to the highly-industrialized Windsor area and other districts in Southwestern Ontario where Hydro's frequency standardization program is in progress.

Then, too, part of the new plant's 60-cycle output will be converted to 25 cycles at the E. V. Buchanan Transformer Station near London to serve areas where frequency standardization has not, as yet, been undertaken.

In addition, the station will be called upon to assist in meeting daily and seasonal peak loads and to supply power as required to the general pool for Southern Ontario.

Ideal Situation

Towering above the busy Detroit River, the plant is ideally-situated in respect to its coal and water supply. This is very important, for, apart from generation of steam and various other purposes for



NEW PLANT is Commission's se major steam generating station will add a total of 354,000 h power to Hydro's resources completed in 1953.

which water is needed, each of the 66,000-kilowatt (88,500 hp.) turbine-generator units requires 45,000 imperial gallons per minute for cooling.

The total daily consumption of water by the four units for cooling will be approximately twelve times the daily consumption of the city of Windsor and its tributary population.

The cooling water for the station will be received through a river-side intake provided with screens. The water will be purified by chlorination, before reaching its functional destination. After serving its purpose, the water will be returned to the Detroit River through a discharge tunnel and open channel.

300,000-Ton Stockpile

The steam for the four turbines will be produced by four steam generators. Each will be 105 feet high. Thirty tons of coal per hour can be consumed in each steam generator. Since coal can be delivered to the plant by boat in the summer only, 200,000-ton stockpile is now available.

Connected dock arrangements permit the unloading of lake colliers at the rate of 1,200 tons per hour. Two flights of coal conveyors fitted with endless rubber belts will carry the coal from the ships to the storage stock-piles at this rate, and two more from the storage piles to the coal bunkers in the station at the rate of 400 tons per hour.

In the bunkers, coal will be held ready for pulverization. Coal pulverized at the steam generators will be reduced to the fineness of talcum powder. It will be driven into the furnaces by a blast of pre-heated air, and burned in suspension.

Many of these facts were emphasized by Chairman Saunders in his inauguration address. The official opening ceremony, which took place in a large tent adjacent to the main entrance of the new plant drew a capacity audience including a large throng of interested



ENERGETIC General Manager of Windsor Utilities Commission J. Clark Keith, in whose honor station was named, presses button to officially inaugurate first of four units to be installed.

Windsor and district citizens as well as many of the 1,100 men who are playing a vital role in construction operations at the plant.

On the platform with Mr. Saunders and Mr. Keith, who was accorded the honor of pressing the button to officially set the first unit of the new station in operation, were government and civic leaders, prominent industrialists and business men, labor officials, special guests and several ranking representatives of the Commission.

Significant Milestone

Ontario, Mr. Saunders said, was observing another significant milestone in the opening of this second major steam plant.

"It is a project of which the people of Windsor may be justly proud. They are proud too, I am sure, that this station has been named after the highly-regarded and able general manager of the local utilities commission."

In guiding the electrical development of Windsor since 1935, "Mr. Keith has done a superlative job for the people of this city and is today regarded as one of Canada's outstanding engineers," the speaker stated.

Expressing appreciation to those who had played a part in the building of the plant, Mr. Saunders said:

"I would like to convey my warmest thanks to H. G. Acres and Company, our

(Continued on page 6)











1. WITH the ceremonies over, this group, which includes Dr. Otto Holden, Assistant General Manager—Engineering; W. Ross Strike, Second Vice-Chairman; Richard L. Hearn, General Manager and Chief Engineer; Mr. Keith, A. W. Manby, Assistant General Manager—Administration; Chairman Saunders and R. M. Laurie, Manager, Western Region, was found relaxing for a few moments. 2. On a tour of the plant, the photographer noticed S. L. Fear, Hydro's steam stations Liaison Engineer, centre, and G. E. Kewin, Electrical Engineer, right, congratulating W. D. Buffett on his appointment as Project Manager at Windsor for H. G. Acres & Co., consulting engineers.

5. CHAIRMAN SAUNDERS IS SHOWN SPEAKING DURING THE OPENING CEREMONIES.





6. WHEN HYDRO was building the Sir Adam Beck No. 1 Generating Station over a quarter of a century ago, the man in the centre of this photo, William Leroy, was on the job as a construction foreman. Today he is still serving Hydro, in a sense, in his capacity as a construction superintendent with a contracting firm at the J. Clark Keith project. Mr. Leroy is shown with Sir George Nelson, Chairman and Managing Director of English Electric Company, England, left, and Richard L. Hearn, following the opening ceremonies. 7. In his inauguration address at Windsor, Hydro Chairman Saunders made special mention of the fine spirit of co-operation which has marked Ontario Hydro's relations with Hydro Quebec, Canadian Power Co., (subsidiary of Niagara Mohawk Power Corporation) and Detroit Edison Company. Representatives of these organizations attended plant opening and are shown in this photo which includes, l. to r., R. L. Hearn, Ontario Hydro; John Bracken, Niagara Mohawk; Prentiss M. Brown, Chairman, Detroit Edison Co.; C. C. Parkes, Assistant to President, Hydro Quebec; J. Clark Keith, and Chairman Saunders.



3. DURING their inspection of the new station Hydro's Director of Research, Dr. W. P. Dobson, left, and M. J. McHenry, Director of Consumer Service, centre, paused to chat with Frank Mascarin and Roy Gilbert, representatives of Canadian Kellogg Company. 4. Also snapped while touring the plant were C. N. McCarter and G. A. Wellman, Ontario Hydro; S. E. Dinsmore, head of the Windsor firm handling plant construction; J. F. Tecktoe, Jr., Asst. Gen. Mgr. Windsor U.C.; W. R. Catton, Manager, Brantford P.U.C.; M. W. Rogers, Carleton Place, Pres. AMEU, and Dr. Otto Holden.

8. PART OF THE LARGE CROWD WHICH ATTENDED THE OFFICIAL OPENING OF THE NEW STATION.



SIGNIFICANT MILESTONE

(Continued from page 3)

consultants; to the English Electric Company; to the firm of Babcock, Wilcox, and Goldie-McCulloch of Galt; to Windsor's own Dinsmore Construction Company with whom we were happy to place the contract for building of the station, and to many others who, in any way, have been connected with bringing this great plant into being."

Then the Hydro Chairman directed his remarks to the large group of construction workers who witnessed the opening ceremony.

"We are deeply indebted to you men on the front line of construction, you men of labor whose many skills have contributed to and are still contributing to the building of this great station."

Imperative Necessity

Dealing with the importance of the J. Clark Keith and Richard L. Hearn plants in Hydro's ever-growing network of generating stations, Mr. Saunders said they were "an imperative necessity today."

In this connection he pointed out that on November 12, the demands in the Southern Ontario System had exceeded the demands of the corresponding day a year ago by 478,070 horsepower — 124,070 horsepower more than the total installed capacity of the new Windsor plant when completed.

"Consequently we have put into these new stations the very best of our skill and workmanship."

But, he continued, in view of the increasing demands and the heavy additional cost of developing power from steam, the Commission was hopeful that "before many months have passed the first sod will be turned for the great St. Lawrence Development."

Concluding his address, the Hydro Chairman called J. Clark Keith to the front of the dais and amid a rousing ovation, the energetic General Manager of Windsor's Utilities Commission pressed the button to officially set in operation the first of the station's four large turbo-generators.

In acknowledging the honor conferred on him, Mr. Keith said the new plant's "impulses will be felt throughout the province. It has personality, it lives. It is an achievement which Ontario Hydro can regard with complacent satisfaction."

No one could evaluate the importance of this plant to the Windsor area, he continued. "In every way it is an asset to this city. It is a symbol of provincial faith in this district and its future."

Expressing his gratitude to Mr. Saunders and his colleagues, the speaker declared: "I am indebted to those persons, known and unknown, who have made this a never-to-be-forgotten incident in my life. To each and everyone here, may I say, in all sincerity, thank you!"

The fact that the station bore his name, he modestly pointed out, must be interpreted as a desire to associate this plant, because of its location, with a citizen of Windsor who had evidenced an interest in the well-being of Hydro over a period of years.

"I admit this interest. I would find it difficult to ever disassociate myself from it."

Mr. Keith also paid tribute to the loyalty of his associates, the co-operation of the members of the Windsor Commission and the "ever-available assistance of the Ontario Commission and its staff."

"If I have merited and earned the respect of those with whom I have been associated, I am content."

Brief Addresses

Brief addresses were also given by several other prominent guests present at the ceremony including Gordon H. Fuller, Chairman of Windsor Utilities Commission; Reeve Earl Totten, Sandwich West Township; D. P. Cliff, Dundas, President of the O.M.E.A., and a member of the Ontario Hydro-Electric Advisory Council; M. W. Rogers, Carleton Place, President of the A.M.E.U. and also a member of Hydro's Advisory Council; Richard L. Hearn, the Commission's General Manager and Chief Engineer; Sir George Nelson, Chairman and Managing Director of the English Electric Company who came to Canada for the ceremony, and W. Ross-Strike, Second Vice-Chairman of Ontario Hydro.

Guests Tour Plant

Following the formal opening ceremonies, visitors and guests were conducted on a tour of the new station while workmen returned to the job of completing the remaining three units.

Climaxing the event was a luncheon at Windsor's Elmwood Casino where Mr, Keith received further honors. On behalf of the Windsor Utilities Commission and District No. 8, O.M.E.A., Warren P. Bolton, Windsor Commissioner, presented the guest of honor with two pieces of matched luggage, In recognition of his prowess as a hunter, Mr. Keith received a 20-gauge shotgun from Chairman Saunders on behalf of friends at Ontario Hydro.

As a final gesture, he was asked to cut a large cake — a replica of the new station which bears his name, complete even to the coal conveyors.



"Don't open your mouth about anything or they'll make you chairman of it."

—Cosmopolitan



ON BEHALF of Windsor Utilities Commission and District B, O.M.E.A. Windsor Commissioner Warren P. Bolton presented Mr. Keith with a set of matched luggage during luncheon which followed ceremonies.





WINDSOR U.C. Chairman, Gordon Fuller, centre, looks on as Mr. Keith smiling happily receives a 20-gauge shotgun from Chairman Ross H. Saunders who presented it on behalf of Ontario Hydro friends.



MODESTLY PROUD of the honors conferred on Mr. Keith were members of his immediate family, including, left to right, Miss Mable Keith, Toronto, a sister; his daughter-in-law and son, Dr. and Mrs. W. Elliott Keith, Walkerville; Mrs. Keith, Mr. Keith, and their daughter, Mrs. Chas. McLean, Toronto, and Grandson Keith McLean, front row, who attended impressive ceremonies.

HYDRO

by
The Editor

IT was a Christmas card scene . . . the kind of scene that included a little church, church bells, deep snow underfoot and big, fluffy snowflakes, falling slowly and softly. And then, too, there were people . . . men and women who were smiling and children who were laughing.

Indeed, it seemed as if the spirit of Dickens were abroad and that something of that magic he imparted to the Christmas Season were in the air when Hydro came to the picturesque little community of Killarney on the north shore of Georgian Bay last month.

It was also a memorable, historic and moving scene as Hydro Chairman Robert H. Saunders, standing at the top of the steps of the Church of St. Bonaventure with Rev. Father Vincent McHugh, reached out to touch the switch. Before them, in the semi-darkness, were most of the 400 citizens of the village standing on the steps of the church. And in that tenebrific setting, the deep, hearty voice of the Chairman might easily have been that of another popular figure who is familiar to old and young alike around Christmas time.

Night Into Day

For a few seconds, there was a dramatic hush . . . then the almost inaudible click of the switch. At that moment it seemed as if night had been transformed



SYMBOL OF a new era in the lives of the people of Killarney, this Hydro pole is one of a number built to bring electricity into this picturesque Georgian Bay community. Checking the transformer is A. H. Wood, Ontario Hydro's Manager of the Manitoulin R.O.A



omes to Killarney

In a Christmas Card Setting, Hydro Chairman Saunders Touches the Switch to Bring Power to the People of Picturesque Killarney

into day. The entire front of the trim, limestone church, built only a year ago, was flooded with light. The church bell pealed forth and the piercing whistles of the fishing boats in the little harbour filled the air. The people cheered and laughed.

Hydro had come to Killarney, heralding the dawn of a new era in the lives of the kindly, hard-working folk who live in that community.

Within a matter of minutes after the switch had been snapped on, the crowd seemed to surge forward as one right into the church. Inside they knelt in prayer and the music of the organ accentuated the solemnity of the occasion.

In his sermon, Rev. Father McHugh, while paying tribute to the genius of man which had brought happiness and comfort to the people, impressed upon his audience the fact that all great gifts could be traced back to God.

Gift of Nature

Speaking later in the evening in the village hall, Hydro Chairman Saunders commented upon the fine sermon delivered by Father McHugh and he then directed attention to the Hydro motto "Dona Naturae Pro Populo Sunt" — The Gifts of Nature are for the People. Hydro, he told the people of Killarney, had been established to harness the great gifts of nature — the water resources of this Province — for the benefit of all the people and not just a few. He said he was proud and happy to have the privilege of welcoming Killarney into the Hydro family and to know that the people of the community would be enjoying the benefits of electricity before Christmas.

Dr. Otto Holden, the Commission's Assistant General Manager—Engineering, expressed the sincere thanks of the Commission to A. H. Wood, the Hydro Area Manager on Manitoulin Island; to George Marley and to all the men who had worked on the job of bringing Hydro lines into Killarney.

Engineering Achievement

He directed attention to the engineering achievement represented by this job. In the 18-mile stretch between Birch Island and Killarney, the Hydro lines make 29 crossings of water. They reach from island to island at heights ranging from 35 to 100 feet, while three of the crossings involve the use of submarine cable. One of the spans of line, across the navigable waters of Narrow Bay, between McGregor and Fraser Peninsulas, is just over a mile in length and it is believed to be the longest single span of distribution line in Canada and the longest span of any type of line in Ontario.

Capable of ultimately carrying 44,000 volts, the new lines will serve some 132 new farm, summer cottage and mining customers in addition to providing service to the people of Killarney and to a nearby quarry.

Those taking part in the ceremonies under the chairmanship of Father Mc Hugh included H. D. Rothwell, Ontario Hydro; Reeve Alban Hebert and Councillors C. W. and John Low of Killarney; Senator Thos. Farquhar, Charles Lowe Jr., Peter Lowe, James Lowe, and Leo Pitfield.

An outstanding contribution to the success of the event was made by the members of the Catholic Women's League headed by Mrs. W. T. Pitfield, President;





SNOW WAS falling in big flakes and most of the citizens of Killarney were gathered in front of the Church of St. Bonaventure when Ontario Hydro Chairman Robert H. Saunders switched on the power. New lines to Killarney

Ontario HYDRO comes to Killarney



CHAIRMAN SAUNDERS was caught in the act by the cameraman as he bent down to kiss Rosalind Roque who presented him with a very large key to Killarney. In the background, left to right, are Senator Thomas Farquhar, Charles Low, Sr., Albena Hebert (partly hidden), Rev. Father Vincent P. McHugh, M. W. Rogers, Carleton Place, A.M.E.U. President, and George W. Rayner, Rayner Construction Limited.



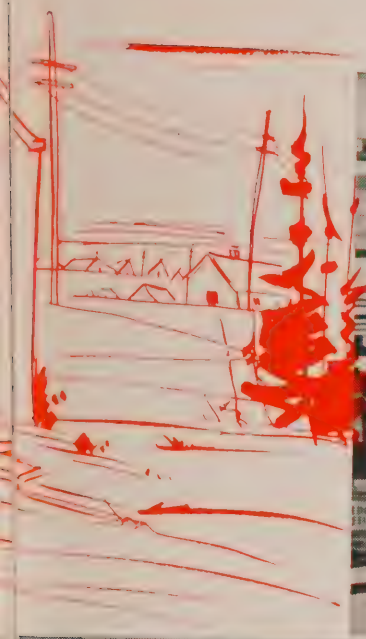
NOW THAT Hydro has come to the village of Killarney, the old oil lamps are being put away. In the above picture Mrs. George Pitfield takes prompt action along this line in her home.



ANOTHER INNOVATION brought about by the advent of Hydro the installation of an electric organ in the village church. Picture first practise in the Church of St. Bonaventure are Mrs. Georg Marguerite Burke, Mrs. C. W. Low, Mrs. Fred Beauvais, Mrs. Alfred Mrs. Norman Beauvais, Mrs. Joseph Delamorandiere and Mrs.



THIS HAPPY trio comprises, from left to right, Dr. Otto Holden, Assistant General Manager—Engineering of Ontario Hydro, Rev. Father Vincent P. McHugh and Hydro Chairman Robert H. Saunders holding the switch which was used to turn on the power for Killarney.





ANOTHER CITIZEN who is glad to see the arrival of Hydro is T. H. Jackman. A well-known figure in the Killarney district, Mr. Jackman operates a general store. He plans to replace hand-operated meat slicer with electric model in near future.



DOWN to the job, Reeve Alban Hebert shows Mrs. V. Bateman the interesting features of a gleaming new electric stove. The electrical appliance store was the scene of considerable activity coming of Hydro power to the Georgian Bay community recently.





FISHING IS the principal industry at Killarney where the annual catch is estimated at 400 tons. Those engaged in this vital enterprise can now make use of Hydro power to provide electric refrigeration. A typical scene at one of the docks is shown on the left.

Mrs. Bertha Lowe, Vice-President; Mrs. C. W. Low, Treasurer, and Mrs. Basil Roque, Corresponding Secretary. In carrying out the catering arrangements, these ladies, assisted by other active and willing workers, provided a highly appetizing dinner.

Later in the evening — after dinner and after the speeches — they cleared the hall and really gave vent to their jubilation. They cut a birthday cake in honor of Hydro and put on as fine an exhibition of square dancing as one would see anywhere.

Presentation

One of the highlights of the evening was the presentation of a key and a pair of gold cuff links to Chairman Saunders.

Taken completely by surprise, Mr. Saunders found himself looking down at two very young ladies, possibly about six and nine years of age. One had the key — an out-size in keys for it must have been made to fit an 8-inch keyhole — and the other had the box containing the links.

Quite equal to the occasion, the Chairman dropped to his knees put his arms round the girls and gave them both a kiss. Cheers and laughter filled the hall as the Chairman remarked: "You fellows are jealous!"

One of the delightful features of the program was a dramatic presentation by the children of the community, while Frank Teskey, a prominent Toronto newspaperman, made a tremendous hit as a conductor when he led the children in a choral number.

Killarney History

Mingling with the people of Killarney, *Hydro News* learned some very interesting facts about the district. It appears that the original name of the village was SHEBANONING, an Indian name meaning canoe passage. It is said that such men as LaSalle, Marquette, Etienne Brule and other early explorers passed through the Killarney Channel.

It was in the year 1882 when Lord and Lady Dufferin visited the spot, that the village got the name of Killarney. Lady Dufferin made the observation that the place reminded her very much of Killarney in Ireland.

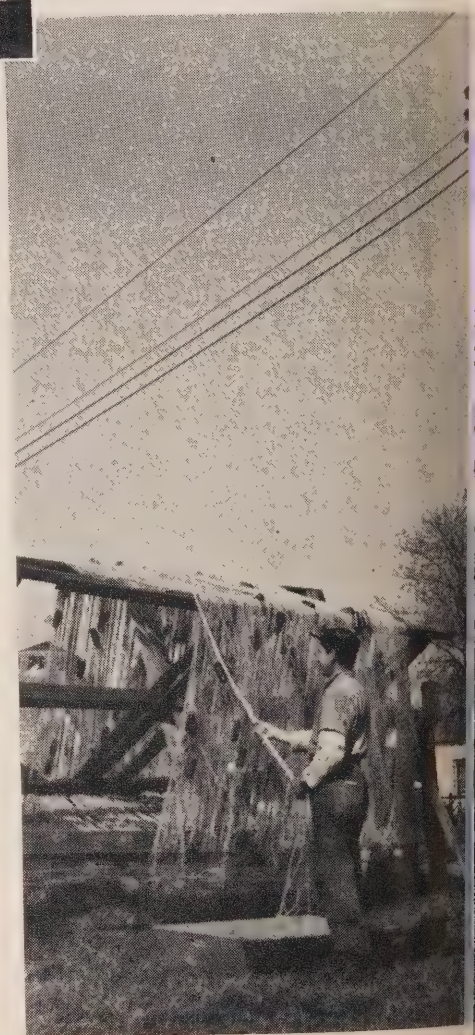
And sure, they called it Killarney from then on!

Export Fish

The principal industry — outside of the tourist business — is fishing, employing some 50 people. It is estimated that the annual catch of fish is something like 400 tons, most of which is exported to the United States.

Father McHugh, a native of Sault Ste. Marie, who is untiring in his work among the people, has served that parish for 17 years. It was, very largely, through his efforts and the co-operation of the people and visitors to the area that the new church was completed last year.

With Hydro service now available, the people of Killarney are putting away their oil lamps and very soon, it is anticipated, they won't be using flashlights on the streets for Killarney is looking forward to street lights and to a future filled with new comforts and conveniences.



EMPLOYING SOME 50 people, the local fishing industry exports most of its catch to the United States. Fisherman R. Beaucage repairs his nets beside one of the new Hydro poles which carries line through village.

HISTORIC AGREEMENT

IN the pages of Canadian history, yet to be written, December 3, 1951, will stand out in bold relief, particularly for the citizens of Ontario.

For on that day, the people of this province moved a step nearer to the realization of the long-cherished dream of proceeding with the St. Lawrence Seaway and Power Project.

Under a blaze of flood lights a ceremony took place in the offices of Canada's Prime Minister, Rt. Hon. Louis St. Laurent, on Parliament Hill at Ottawa. During that ceremony, highlighted by an atmosphere of complete cordiality and understanding, four well-known Canadians affixed their signatures to an historic document in which Canada made available to Ontario all rights to the power resources of the International Rapids Section of the famed St. Lawrence.

Signing this important document on behalf of the Government of Canada was the Prime Minister himself as well as the nation's Minister of Transport, Hon. Lionel Chevrier. Premier Leslie M. Frost and Acting Provincial Secretary, Hon. George H. Challies, First Vice-Chairman of Ontario Hydro, were signatories on behalf of the people of Ontario.

For Mr. Chevrier and Mr. Challies it was a significant occasion. Both men, (Mr. Chevrier, of Cornwall, represents Stormont County in the House of Commons, while Mr. Challies, of Morrisburg, is the Ontario Legislature representative Grenville-Dundas riding) have a deep personal interest in the great St. Lawrence Project.

For Hydro Chairman Robert H. Saunders, who played an active role in many of the discussions preceding the actual signing of the agreement and who was present for the ceremony, the signing marked an important and progressive step after many months of exhaustive conferences with national and international authorities.

Announcing the signing of the agreement in the House of Commons a few minutes after the ceremony, Prime Minister St. Laurent said that Ontario, in broad terms, had undertaken to develop the power resources of the International Rapids Section concurrently with any development on the United States side by an appropriate authority. The agreement, he continued, had been concluded in the expectation that the United States would not participate in the seaway project and thus the navigation works would be undertaken by the Canadian Government and would be entirely in Canada.

Speaking at a Junior Board of Trade dinner in Ottawa the same evening, Hydro Chairman Saunders said that the agreement was a significant step, not only because of its connection with such a

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PRIME MINISTER St. Laurent signs the all-important document as Premier Leslie Frost of Ontario and Transport Minister, Hon. Lionel Chevrier, look on. Hydro Chairman Robert H. Saunders and Hon. George H. Challies, First Vice-Chairman, Ont. Hydro, are standing behind Mr. St. Laurent.





QUINTE CITY

Historic and Beautiful Belleville —Home of Many Flourishing Industries— With a Century of Progress Behind It, Looks Forward to a Happy and Prosperous Future

BELLEVILLE'S picturesque Moira River mirrors clock tower of the city hall, a landmark of the Quinte City, located 115 miles east of Toronto on Highway 2.

by
Ian L. Thomson
Hydro News

BACK in 1790, when the United Empire Loyalists emigrated to Upper Canada, a Captain John Walden Meyers obtained a lease on some land at the mouth of a small but fast-flowing river on the Bay of Quinte.

On this spot Captain Meyers built the first grist mill and later the first brick house in Upper Canada. Settlers named the site, Meyer's Creek in his honor.

It's quite possible the name would have endured if a tavern hadn't been built in the settlement in 1794. Then, one night in 1816 Lady Annabella Gore, (known as Belle), wife of Sir Francis Gore, the Lieutenant-Governor, was travelling to York (now Toronto) and decided to stay the night at the tavern. It was quite an event for those Meyer's Creek pioneers who had remained loyal to the British Crown, so they commemorated the visit by renaming their settlement Belleville.

Became City in 1877

The growing community was incorporated as a police village in 1863 and as a town in 1850, attaining the status of a city in 1877. Today, with a population of some 20,000, it is regarded as one of Ontario's most prosperous and progressive urban centres.

Certainly Belleville's geographical location is all in its favor. Located 115 miles east of Toronto and about 245 miles west of Montreal, the Quinte City is situated in the centre of Canada's most densely populated area.

Served by Canada's two great transcontinental railways, it is an important divisional point in the C.N.R. system. In fact, these railways make an important contribution to the city's economy. Estimates place the annual payroll of the 1,200 railway employees at Belleville in the neighborhood of $4,000,000.

Four main Ontario highways link this

busy Hydro municipality with the rest of the province while two airports are located within 10 miles of the city. Belleville also has the distinction of being one of the seven Ontario cities to enjoy ocean port rates for export.

County Seat

Seat of Hastings County, named after Francis Rawdon, Earl of Moira and Marquis of Hastings — an 18th century soldier and statesman — whose first title is perpetuated in the river which bisects the city, Belleville is noted for the volume and variety of its agricultural and food products.

Its name is closely associated with the dairy and fruit industry and the processing of such foods as hard cheddar and other types of fancy cheese, ice-cream, butter, poultry, dehydrated and frozen foods as well as canned fruits and vegetables.

Agricultural products are not the sole contribution of this flourishing city. There is a diversity of industrial enterprise here, including the manufacture of electrical equipment, building supplies, optical lenses, furniture, aerated and distilled beverages, both heavy and light industrial equipment, as well as leather goods and clothing.

Industrial Expansion

Belleville's record of industrial expansion in the past 15 years is almost phenomenal. Gross value of products manufactured was estimated at $3,086,796 in 1935. By 1940, this figure had jumped to $5,357,925 and by 1950 it totalled $11,280,588.

From the aesthetic point of view, Belleville is equally favored. Overlooking the broad reaches of the picturesque Bay of Quinte, the city, with its tree-shaded streets, spacious lawns and substantial brick and stone buildings, has a pleasant, healthy atmosphere.

To the north, beyond the fruit and dairy farms, is a rugged, lake-dotted district which extends across Central and Eastern Ontario. Lying to the south, on the other side of the "Bay" is Prince Edward County, which, in addition to its fame as a potential producer of canned fruits and vegetables, is noted as "The Isle of Lakes and Bays".

Thus, attracted by these natural attributes, thousands of vacationists make pilgrimages to this area every year.

Educational Facilities

Then, too, Belleville's record in the educational field is almost unrivalled. In addition to its own primary and secondary school system, the city is the home of the Ontario School for the Deaf and such private schools as Albert College, St. Michael's Academy and the Ontario Business College.

One daily newspaper, the *Ontario Intelligencer,* product of the amalgamation of the *Daily Intelligencer* and the *Daily Ontario* in 1930, serves Belleville and the Bay of Quinte district. It is interesting to note that Sir Mackenzie Bowell, who was associated with the *Intelligencer* for many years, was also Canada's Prime Minister from 1894 to 1896.

Belleville Utilities Commission

Ranking high in the city's municipal services is the Belleville Public Utilities Commission under the capable managership of Oswald H. Scott, P.Eng. The local commission suffered a severe loss recently when the 1951 chairman, Frank R. Wotten, died suddenly, bringing to a close a career of 25 years' continuous municipal service. In his 58th year at the time of his death, Mr. Wotten was born at Markham and educated in Peterboro. The deceased served eight terms on the Belleville City Council and an equal number of years on the Board of Education. He was first elected to serve on the Belleville Commission in 1943. Engaged in the retail dry goods business in this city, Mr. Wotten was a Past President of the Kiwanis Club and the Y.M.C.A. He leaves to mourn his loss his wife and two daughters. Other Belleville Commissioners during the past 12 months were Mayor Dr. R. T. Potter and F. S. Follwell.

The city's first electrical system was built by a private company. In 1916, the Ontario Government purchased the company's interests and the system was operated by Ontario Hydro in trust until 1929.

Cost Contract

A cost contract was signed between the Ontario Commission and the city during that year and Belleville took over operation of the system and formed its first commission in 1930. By 1935, a $176,000 bond issue which had been floated in 1929

(Continued on page 19)



AERIAL VIEW of a portion of Belleville, with the main business section on the left and the Moira River emptying into Bay of Quinte, right. City was first known as Meyers Creek.



TYPICAL OF many of Belleville's modern factories, this well-designed building houses Deacon Brothers, an old-established firm which manufactures sportswear and "functional clothing" — garments designed for all-weather comfort.

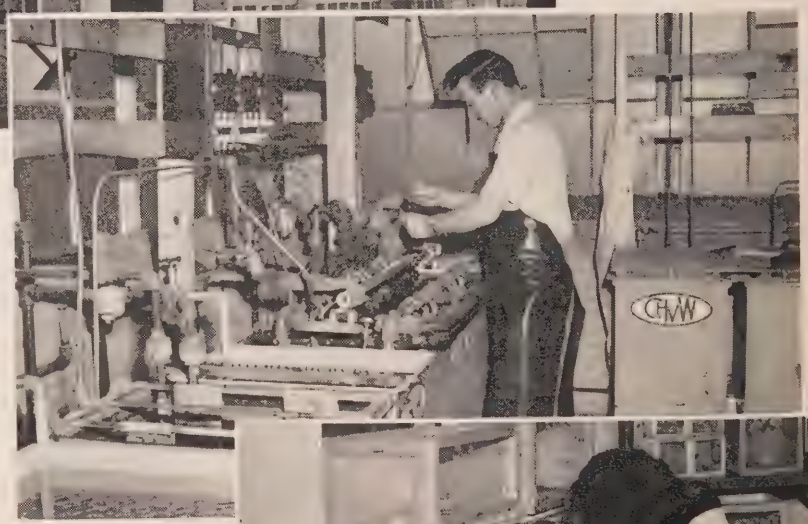
QUI



FEATURING TWO fully-equipped laboratories, this modern plant, home of the Bakelite Company (Canada) Limited, produces the primary ingredients for the manufacture of plastics. Using approximately 3,000,000 gallons of water per day for cooling purposes, this large company is a direct customer of Ontario Hydro.



SITUATED on a 16-acre site, the Canadian headquarters of the American Optical Company. Employing over 200 people, the firm is one of the largest power customers of Belleville P.U.C. The wide variety of precision lenses manufactured at this opthalmic plant are distributed to the firm's 29 Canadian branches.



HYDRO POWER plays an important part in the electro-plating operations of the Avon Jewellery Company's Quinte City plant. In the picture at the right this employee is processing a bracelet, one of the many types of jewellery manufactured by this firm.



PERFORMING AN important public service is the Belleville laboratory of the Canadian Government's Division of Entomology. One of the main current projects of the Division is spruce budworm parasite investigation. Technician Charlotte Stark is shown here studying some of the parasites which will be released in Eastern Canada to help counteract the serious budworm infestation.

CITY

REFLECTING BELLEVILLE'S expansion is the virtual twofold increase in the number of domestic customers during past decade. Attractive housing development, right, is typical of the city's fine homes.



AMONG THE many fine schools located in Belleville is the Ontario School for the Deaf. This well-known institution provides a sound academic education for its students, as well as offering a large number of vocational courses.





CONSIDERED ONE of Ontario's finest secondary schools, Belleville Collegiate Institute and Vocational School has enrolment of 1156 pupils. Principal is G. E. Currie. St. Michael's Academy and Ontario Business College are also located in Belleville.



SERVING A steadily-increasing population, Belleville General Hospital recently added a new wing to keep pace with community's growth. Addition features latest developments in medical equipment.



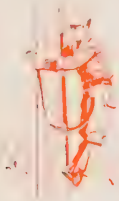
OVERLOOKING THE Bay of Quinte, Albert College, United Church of Canada co-educational private school, is a classic example of Norman-Gothic architecture. College was moved to present site in 1926.



ABOVE: Billing office of the Belleville Commission which serves over 7,000 Hydro customers. Belleville was the first cost municipality in Ontario to introduce the stub plan of consumer billing. Included in the above picture are Helen V. Symons, Supervisor; Laura Moran, Marion Embury, Joyce Laundry, Hazel Lusignan, June Matthews and Marilyn Matthews.



ABOVE: Interior of the general business office of Belleville P.U.C. which has administered city's electrical system since 1929. Included in picture are: Bonnie Heatherington, Hilda Lawrenson, Shirley Hall, Beth Robertson, Lillian Robertson, Wilfred Hales and Ross Stiver.



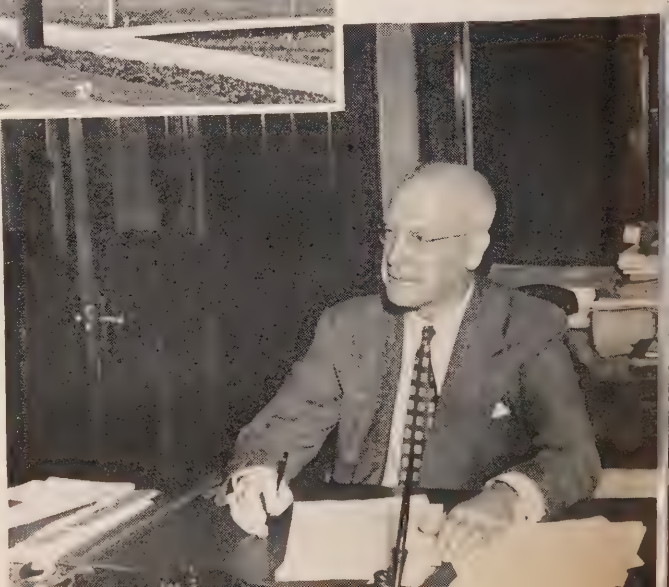


RIGHT: Main sub-station of Belleville P.U.C. Load figures indicate the city's steady growth. In 1929 the load was some 2,600 kilowatts, while today it is over 10,000 k.w. BELOW: Line maintenance and service employees of Belleville P.U.C. pose for the photographer in front of one of the local commission's repair and service trucks.



BELOW: Manager and Secretary, Oswald H. Scott has been associated with Belleville P.U.C. for 35 years. Born in Oshawa, Mr. Scott graduated from McGill University, Montreal. A member of the Engineering Institute of Canada and the Association of Professional Engineers, he is also a keen sportsman, his hobbies being hunting and fishing.





QUINTE CITY

(Continued from page 15)

to pay for the system was fully paid off.

Reflecting Belleville's expansion in the past quarter century is the city's increased use of power. The total load in 1929 was 2,600 kilowatts. The load today is in excess of 10,000 kw. Domestic and commercial rates, prior to 1929, were 8 cents per kilowatthour, compared with the prevailing rates of 0.793 and 1.183 cents respectively.

In 1940, the Belleville Commission was serving 3,358 domestic customers with an average monthly consumption of 221 kilowatthours. By 1950, the number of customers had increased to 5,209 while their monthly consumption averaged 408 kwhrs. Cost per kwhr. in 1940 was .901 cents compared with .793 cents by 1950.

Similarly, commercial customers in 1940 totalled 657 with an average monthly consumption of 579 kwhrs. and a cost of 1.197 cents per kwhr. Customers in this category increased to 729 during the next 10 years while their average monthly consumption increased to 1,052 kwhrs. and the cost dropped to 1.183 cents per kwhr.

In the same period, average monthly consumption of power customers increased from 3,371 to 5,705 kwhrs. while the number of customers increased from 101 to 138.

Financial Record

Growth of Belleville's Hydro system is also reflected by its financial record which shows that assets have almost doubled in the past decade. In 1940 this figure was $442,017 while liabilities amounted to $14,100. By 1950 assets of the commission were $845,354 and liabilities showed a slight increase — $18,872.

This then is the record of Belleville — a record of steady growth from a tiny hamlet to a flourishing city and one which, its citizens feel confident, presages a happy and prosperous future.

Classified Ads

FOR SALE

3 — 20 Kva Moloney Transformers type HE 2300/550 volt, 25 cycle single phase,
Serial Nos. 59151, 59157 and 59156.
At a price of $50. each. These transformers have been constantly in use and are in good condition.

Apply Highgate H.E.S.
c/o J. Attridge, Highgate, Ont.



"Did'ja ever wonder how these things work?"
—Motor

DEBENTURE ISSUE

Oakville Town Council has given three readings to a bylaw authorizing a $100,000 debenture issue to improve and extend the town's Hydro system.

HISTORIC AGREEMENT

(Continued from page 13)

vital development, but, also because of the tangible evidence it presented of tremendous benefits accruing from wholehearted and continuous co-operation between the Governments of Canada and Ontario.

Joint Development

Mr. Saunders pointed out that the agreement gave Ontario Hydro the right to develop, in conjunction with an agency to be designated by the United States, the 2,200,000-horsepower potential of the International Rapids Section.

"The St. Lawrence is one of the greatest gifts nature has provided in the form of 240,000 cubic feet of water rushing downhill each and every second and each and every day," said Mr. Saunders. "It, most assuredly, should be used for the benefit of the people."

FAMOUS PROBLEMS

(Reprinted from Cosmopolitan)

THE COUNTERFEIT COIN

By Richard L. Frey

AMONG the contestants on a radio quiz show one evening was a T-man, an agent for the United States Treasury.

When the T-man's turn came, the master of ceremonies said, "I have a problem that should be right up your alley. It is part of your job to detect counterfeiters and counterfeit money. Here are nine coins. Eight of them were genuine silver dollars; the ninth is a counterfeit, which is lighter in weight than the honest coins. Now, here is an apothecary's scale. I'm not giving you any weights to put in the pans because the problem is to detect the counterfeit by balancing the coins against each other.

"Of course, you can do it by weighing one coin at a time, and if you are lucky maybe you'll discover the counterfeit on your first trial. However, only the first weighing is free. For each additional try, you must return one of the coins to me."

The T-man was clever enough to figure out a method that would surely detect the spurious coin within two weighings. He returned the counterfeit to the quiz master as payment for the second weighing, and thus kept the eight honest dollars. How did he do it?

The T-man divided the same coins into groups of three, calling them A, B, and C. He first weighed A against B. If they balanced, the counterfeit would be in C; if they did not, the counterfeit must be in the lighter group. Then, from the marked group, he could weigh any coin against the other. If they balanced, the counterfeit would be the third coin; if they didn't, it would be in the pan that went up.

Christmas Customs

by Shaun McQuillan

CHRISTMAS of today is a far cry from the festivities of the Winter Solstice in pre-Christian eras when people of Scandinavian countries kindled fires to defy the Frost King; drank great horns of mead and told weird tales of werewolves and the valkyrie — maidens who searched for souls and conveyed them to Valhalla.

Those were the days when the ancient Druids observed the season with strange ceremonies in the roofless temples of Stonehenge and Avebury in England, sacrificed white bulls, and worshipped mistletoe entwined around oak.

There are no superstitions today so fantastic as that in Norway where it was once believed that those who dared to go out into the winter darkness on Christmas night could see through windows the people destined to die during the coming year — sitting headless in their chairs. The danger of midnight cavorting in those days was the dread Oskeneien, a cavalcade of unblessed spirits, who tore through the air trying feverishly to carry away foolhardy adventurers.

But the passing of the years has brought new customs and others have been modified in countries throughout the world. Although many are familiar enough, there are some we would find a little strange.



MANY HOMES in France have their own Creche which they keep from year to year.

Svaty Mikulas

For instance, in Czecho-Slovakia on December 6, the start of the three-week celebrations, is observed in honor of Svaty Mikulas, or St. Nicholas, who takes the place of Santa Claus in the hearts of Czech children. St. Nick is believed to come down a golden cord from heaven, conducted by a white-clad angel.

Attached to him by a rattling chain is an evil spirit named Cert, clad in a black hood. Three friends of the family dress up like Svaty Mikulas, the angel and the evil spirit, and on arrival at the household the children must rush to a table to say their prayers.

If they know their prayers they are rewarded with gifts from the angel; if not, the evil spirit is on hand to hand out a whipping.

In France a great celebration is that of the Fete des Rois or the Feast of the Kings. On January 6, a dinner is given, usually in a restaurant. The principal food is cake in which a China bean has been hidden. The cake is divided into the number attending the party and the finder of the bean is crowned King of the Twelfth Night. He chooses a queen and both proceed to direct members of the party to play up to their ridiculous wishes. If a woman finds the bean she chooses a king and the procedure is the same.

Patron Saint

Present-giving is quite an event in Holland. As with Czechoslovakia and several other European countries the present-bearer is St. Nicholas instead of Santa Claus.

The presents from St. Nick — who, by the way, is the patron saint of children, bankers, pawnbrokers, maidens, mariners, scholars and thieves — must be hidden and disguised as much as possible to add to the fun of the surprise. Each gift is accompanied by rhymes explaining the gifts and to whom it is supposed to reach.

Small gifts are almost invariably wrapped in huge packing cases, the several layers of paper each labelled with a name. The parcel thus travels through several hands before reaching its final destination.

Sometimes the gifts are baked in a loaf of bread or hidden in a lump of turf.

Throw Crockery in Denmark

Householders in Denmark save all their old and broken crockery — to throw at the doors of their favorite friends on New Year's Eve. In the spirit intended the thrower is usually invited in for refreshment. And the most popular citizen of the community is he who has the most crockery on his doorstep on New Year's day.

Almost all countries have one thing in common — they prepare special foods for Christmas. Some of these festive dishes



CHILDREN in the Netherlands never forget to leave something for St. Nicholas' horse.

may seem a bit strange to Canadians.

A typical Armenian meal on Christmas Eve, for instance — that's the day Armenians in Persia and India hold most holy — includes fried fish, lettuce and spinach. Their belief is that Mary ate spinach the night before Jesus' birth.

In Greece, special loaves of bread are baked at Christmastime. Each is marked with a cross, like our own hot-cross buns, and the first segment is cut for the Virgin Mary. Then other pieces are cut in honor of the homestead, family animals, furniture, and finally for members of the family — according to age.

After the dinner, two olive leaves, representing a girl of the family and her sweetheart, are placed in the embers of the Yule log. If the leaves turn toward each other as they burn, the young lovers will soon be married; if they turn away, there is a long wait in store. Whether young love heeds these forecasts is another matter.

Feed the Horse

In Belgium, Christmas Day is almost entirely a religious celebration. December 6 is the day that the youngsters deal with St. Nicholas. During the previous evening, the old gentleman, in bishop's dress, visits the children and promises to bring presents on the morrow. As soon as he leaves the house, they put out their biggest boots, baskets and plates. Then they leave water, hay, carrots and a potato for St. Nicholas' gray horse. Canadian children might be equally considerate of Santa Claus' reindeer!



IN GREECE, Christmas is a religious festival. New Year's Day is the festive season.

12-Course Meal

Ukrainian immigrants have brought a delightful custom to Canada — that of preparing for the Nativity with a 12-course meal, one course for each of the Apostles. Under Orthodox rules there is a 39-day fast before Christmas. On Christmas Eve, no food is eaten until the first star appears. Each member of the Ukrainian family must be gentle and polite, for they believe that peace and affection at Christmastime will endure throughout the following year.

Hunting the Wren

A Scandinavian drummer-boy was responsible for one enduring Christmas custom — the Irish wren hunt. A Viking force which had invaded southwest Ireland in 830 A.D. was resting after one of the meals on Christmas Day. A dozing drummer-boy was roused by the sound of a wren pecking at the crumbs left on his drumhead. He looked up, saw Irish troops stealing up on the sleeping army, and sounded the alarm. The Vikings rallied and drove off the attackers.

Ever since then, Irish boys have gone out on Christmas morning to kill wrens. Their mission accomplished, the Wren Boys wrap the dead birds in ribbon and holly and carry them from door to door, singing carols and collecting money. These wrens, however, are not eaten.

And so it continues. During this Yuletide season a hundred and one different customs will be observed throughout the world from sunny Australia to the icy Arctic.



Photo-news



First 60-cycle Power— Inaugurating the delivery of 60-cycle power to Kitchener domestic customers, Harvey Graber, P.U.C. Commissioner, turns on the main switch in the cellar of a house on Pleasant Avenue in that city. Mr. Graber holds the record for long service with the local commission having been a commissioner since 1937. He was also Chairman from 1938 to 1946. His public service record includes, as well, membership on the Kitchener Public School Board from 1925 to 1935, and chairmanship of the board for five years. In addition he was a member of the Kitchener Public Library Board from 1935 to 1937. Pictured with Mr. Graber as he cuts in the new power is A. W. Brown of the local commission.

Niagara Visitors — Members of the Waterloo County Council and officials of the county visited Hydro's Niagara Project recently and were taken on a conducted tour of the development. They are shown here on the observation platform overlooking the 315-foot gorge of the lower Niagara River near Queenston. Here they witnessed the progress of excavation work at the site of the Commission's 700,000 h.p. Sir Adam Beck-Niagara No. 2 Generating Station.



Red Seal Certificate — A certificate indicating that 30 new Hydro homes in Stamford Township conformed with Red Seal standards of adequate wiring was formally presented to Chairman Robert H. Saunders recently. The new homes were built by the Commission to house certain married personnel engaged at the new Sir Adam Beck Niagara No. 2 development. Shown in this picture during the presentation are, left to right—Gordon Mitchell, Project Manager; John F. Mowat, Manager of the Electric Service League of Ontario, who made the presentation; William M. Hogg, Assistant Field Project Engineer; Chairman Saunders; Reeve Arthur G. Bridge, Stamford Township; and William L. Fraser, Field Project Engineer.



New Sub-station — Erected to serve the fast-growing Current River area in the vicinity of the Strathcona Addition, a new 3,000 k.v.a. sub-station was placed in service recently at Port Arthur.

Formally opened by Mayor F. O. Robinson at a short ceremony attended by members of the Port Arthur Utilities Commission, the attractive red brick cottage-style building harmonizes with the architecture of surrounding residential buildings. It was completed at a cost of $65,000.

In the above picture, Mayor Robinson turns the switch and officially opens the new station. Also in the picture are M. J. McDonald, Commissioner; Buster Harling, Chief Operator; N. H. McLennan, Commissioner; Sam Ashton, Commissioner; Irving Obergh, Secretary; R. B. Chandler, Manager; Dr. M. P. Benger, Chairman, and E. A. Vigars, Assistant Manager, all of Port Arthur P.U.C.

Belle of St. Marys

ASK Arthur Fort, Manager of St. Marys Public Utilities Commission, about hobbies and he'll tell you that one of his favorite spare-time activities is lighting ballet sets.

The ballet sets in question are designed by his 18-year-old daughter Jacqui—a keen student and a rising young teacher of the terpsichorean art.

Jacqui Fort, a honey-haired young miss with tapping feet, has been dancing for eight years. It was an urge to inspire an enthusiasm for ballet among other girls that prompted her to open a school in her home town three years ago.

"I was certain it was a good idea and I wanted pin money," she states as she recalls renting the hall and sending out the first notices.

There is little doubt that it was a good idea. Her school has grown to 90 pupils and last winter she held classes twice a week in the ballroom of an old St. Marys hotel. This year she is conducting three classes as well as a health and beauty class for older girls and women.

Pupils 3 to 16

Her junior pupils range in age from 3 to 16 years and include girls and boys from St. Marys as well as the surrounding countryside.

"The mothers usually show more interest in my dancing classes at first," Jacqui points out, "but, very soon, the fathers are asking how their daughters are getting along."

Dancing, she feels, is an excellent way to help a young





STUDYING in Toronto this year, Jacqui Fort demonstrated the croise devant (above) when interviewed by Hydro News. Right—At home in St. Marys she is shown with five of her 90 enthusiastic pupils.

person lose any feeling of self-consciousness.

"My pupils really look forward to Parent's Day when they can demonstrate what they have learned."

Jacqui has also presented two dance recitals in St. Marys before capacity audiences with her mother superintending the sewing bees which preceded each recital. Proceeds of both concerts were donated to charity.

Attended Summer School

While her school takes much of her spare time, Jacqui also studies under Bernice Harper in London, Ontario. In addition, during the past summer she was enrolled at the National Ballet Guild of Canada school in Toronto where she studied five hours a day in a class with 50 other pupils.

Here she learned both classical and "national" dancing. The latter is a stylized series of steps embodying the basic movements of folk dances of various countries and Jacqui found it particularly interesting.

"Don't get me wrong, though," said the blue-eyed young ballerina when she was being interviewed by *Hydro News*.

"I'm mad about all kinds of classical music." As if to prove it, she tapped her toe appreciatively to the strains of a piano concerto issuing from a nearby record-player.

Eight-Pupil Classes

The summer course was somewhat different from her winter lessons where she studies with only five or six other pupils. She follows this method in her own school where she tries to keep her classes to a maximum of eight.

"I want all my students to know me, and I certainly want to know all of them," she states.

Teaching is a passion with her, she also points out.

"I had to teach something. It was either school or dancing — and I prefer dancing." Not that she has anything against school where she has taken track honors and is now completing her secondary education.

Besides providing an outlet for some of her boundless energy, her ballet school has defrayed the expenses of her own dancing education as well as buying her clothes and school books — an achievement which very few girls of her age can claim!



TORONTO GENERAL NEEDS YOUR HELP!

SERVING Greater Toronto, a large part of Ontario and also patients from many parts of Canada who have required special treatment, Toronto General Hospital has played a basic part in the life of this country for over 40 years at the College St. site. The hospital also is a training centre for 25 per cent of Canada's new doctors.

Now Toronto General is appealing to the public for $14,000,000. The money is needed for modernization of existing plant and for seven new buildings, a program that will enable the Hospital to retain its position as one of the leading medical institutions on this continent.

To raise $14,000,000 is a big job. Some of the money will come from the government, some from the City of Toronto, and some from industry and from wealthy individuals. But the full objective will not be reached unless the average citizen gives the generous support of his, or her, donation.

This is a "once-in-a-lifetime" appeal. The Hospital has not asked the general public for capital funds in the 40 years since the present buildings were provided. If the appeal is successful, the Toronto General will be completely modernized and ready to serve for generations ahead.

The money is needed for additional public beds and equipment, up-to-date and centralized surgical operating rooms, a new emergency and admitting department which, among other things, will handle industrial accident cases, increased X-ray and other laboratories, a rehabilitation centre to speed recovery of patients, improved laundry facilities, a new maternity and women's building, a new building for the Wellesley Division and another that will be the first complete eye department in Canada. Because the Hospital is the country's largest medical training centre, new lecture rooms and internes' quarters and a new nurses' residence are urgently required.

If all of this is accomplished, Toronto General will become one of the most modern hospitals in North America. And this will act as insurance for you, your family and your neighbors in time of sickness, accident or disaster. It is very true that "Thousands may live because you give for a greater Toronto General Hospital."

BLOOD DONORS' CLINIC



NURSE BARBARA WHYTOCK of Hamilton takes blood sample from James Meaney, a Newfoundlander, working on Hydro's Niagara project.

COMPETING with a severe snow and sleet storm which lashed the Greater Niagara area recently, the first blood donors' clinic at the Sir Adam Beck No. 2 project hospital was voted an outstanding success.

Over 300 blood donors braved the wintry elements and virtually impassable roads to keep their date with the Canadian Red Cross Society which set up its temporary "blood bank" headquarters at the Hydro camp hospital.

Ontario Hydro personnel, including Construction Division employees, members of the Commission's Niagara Regional staff, a small group of line construction workers, as well as representatives of the two contracting firms engaged on the Niagara power project, made up the list of donors.

A staff of 14, consisting of 11 nurses, a technician, and a driver, under the direction of Dr. Donald Squires from the Canadian Red Cross Society's Hamilton Division had charge of the clinic. In addition, 10 nurses' aides and clerical helpers from the Niagara Falls Chapter of the Red Cross, as well as three nurses, several first aid men and Dr. Donald K. Grant, the hospital's Medical Officer, gave supplementary assistance.

A total of 270 donors, mainly construction workers, had previously signed up to give blood. A large number of these men were on hand although work on the project had to be halted owing to the storm. Additional men from the contractors' forces and Hydro's Regional Office responded readily to a call for more donors. When the final tally was taken late in the afternoon it was found that 305 had given blood exceeding the day's quota by 55.

Dr. Squires, expressed his gratification concerning the success of the clinic: "The response was simply marvelous, especially in view of the severe storm which could have discouraged many donors from turning out."

VIEW OF GENERAL WARD IN THE SIR ADAM BECK NO. 2 PROJECT HOSPITAL WHERE 305 DONORS GAVE BLOOD TO RED CROSS "BANK".



NEW EXECUTIVE of the Central Ontario Meter Association, elected at the recent annual meeting in North York. Standing, left to right: Alex Christie, North York, Secretary-Treasurer; Tom Honan, New Toronto, Special Committee; Bill Baker, H.E.P.C. Barrie, Special Committee. Seated: George Van Bridger, Bowmanville, 1st Vice-President, and Norm Redsell, Etobicoke, 2nd Vice-President. Inset: Stan Trodd, Orillia, Special Committee, and Don Foreman, Mimico, President, who were unable to attend the meeting.



METERMEN MEET...

MORE than 100 members of the Central Ontario Meter Association attended the annual meeting at St. Andrew's Golf Club, North York.

Following election of officers, members heard a talk entitled "Behind the Scenes with a Design Engineer," delivered by R. T. James of Ferranti Electric Co.

Other speakers included A. L. Carvill of the General Electric Co. (U.S.), whose address on "Precision Meeting" and "Evaluation of Metering Accuracies" was very well received. At lunch, Reeve Nelson A. Boylen of North York Township welcomed the delegates.

Limiting his talk to single-phase watt-hour meters, Mr. James illustrated it with slides. He demonstrated the problems a design engineer encounters in arranging the electro-magnet so that current and potential coil fluxes passing through the disc are displaced 90 degrees in time.



APPARENTLY EAGER to dispose of his money, Frank Squires of Ferranti Electric Co. is seen here paying his registration fee to Secretary-Treasurer Alex Christie, North York. Second Vice-President Norman Redsell, North York, is among those looking on in this photo.



MODEL OF AMERICAN COLONIAL-STYLE CHURCH TO BE ERECTED AT DES JOACHIMS.

New House of Worship Being Built as Co-operative Effort by Hydro and Des Joachims Operating Staff

WITH aid from the Commission, members of the staff at Hydro's Des Joachims Generating Station on the Ottawa River are building a community church to serve the 50 families in the colony as well as others from the surrounding area.

The operating and maintenance staff approached the Commission last May with the idea of building a church. As a result, the project was undertaken as a co-operative effort by Hydro and its employees. By the beginning of December more than $1,000 had been pledged by members of the church while over half this amount had been collected.

Hydro is donating the property for the church as well as supplying considerable material used during the construction period at Des Joachims. In addition, the Commission has excavated and built the basement which will be used as a Sunday School. With this phase of construction completed, church members are now proceeding with the rest of the job.

Designed by the Commission's architectural staff, the American Colonial-style church — 25 by 45 feet — will have white walls and a red tile roof. A scale model, reproduced on this page, has given added impetus to the effort. The new house of worship, which will be situated across the road from the school and just inside the entrance to the colony, will accommodate 100 people.

The church will take its name from the School area and be known as the Rolphton Community Church. Services will be conducted by visiting Roman Catholic, United, and Anglican clergymen, as well as ministers of other denominations. Since 1948 services have been held in the Des Joachims Recreation Hall.

H. J. McCaw Heads Inspectors

H. J. McCAW, Ontario Hydro, was elected Chairman of the Ontario Chapter, Western Section, International Association of Electrical Inspectors, at its third annual meeting held recently in the King Edward Hotel, Toronto.

Inspectors from many parts of the province, as well as representatives of Underwriters' Laboratories of Canada, the Canadian Standards Association, and electrical manufacturers, filled the meeting hall. The International office of the I.A.E.I., Chicago, was represented by R. A. Peterson, Technical Assistant to the Secretary.

A feature of the meeting was a presentation to A. G. Hall, Honorary Chairman of the Chapter, of an honorary membership in the International Association. Mr. Hall, President of the Western Section in 1931, became in 1936 President of the I.A.E.I. — the only Canadian as yet to be elected to that position.

Among the speakers were D. T. Hewson of the Canadian Standards Association, on "The C.S.A. Oil Burner Approval Service" and Frank Ashworth, of Canada Wire and Cable Company on "Thermoplastic Wire Coverings."

Concluding the afternoon session was the presentation of "Winter Blunderland", an instructional film on safe driving.



HONORARY MEMBERSHIP in the International Association of Electrical Inspectors is presented to A. G. Hall, Honorary Chairman of the Ontario Chapter and former Chief Electrical Inspector for Ontario Hydro. Presenting it on behalf of the Executive Council is Past Chairman J. J. Cleaver of the Ontario Chapter. He is Hydro's Area Inspector at Windsor.





ABOVE: NEW EXECUTIVE of Ontario Chapter, Western Section, poses (with friends) for its first portrait. Left to right: V. B. Wailes, Publicity Chairman; N. A. Cockburn, Secretary-Treasurer; R. K. Tumelty, 2nd Vice-Chairman; R. A. Peterson, Technical Assistant to Secretary I.A.E.I.; J. J. Donnelly, Membership Chairman; J. J. Cleaver, Past Chairman; F. R. Whatmough, Canadian Standards Association; F. R. Jeffery, Executive Officer; F. J. Long, 1st Vice-Chairman; A. G. Hall, Honorary Chairman; E. W. McLeod, Chief Electrical Inspector, Ontario Hydro; H. J. McCaw, Chairman; and A. E. Wilson, Chairman of the Dinner and Entertainment Committee: General view of banquet in the Sheraton Room, King Edward Hotel, Toronto.

I WISH I'D SAID THAT!

A GAME TO INCREASE YOUR VOCABULARY AND IMPROVE YOUR CONVERSATION

By Lincoln Hodges

EVER miss the point, say the wrong thing, and then blush? Here's an exercise in the art of conversation. First comes a statement that's made to you; then three possible replies you might make, only one of which proves that you get the drift. You pick the one. If you pick 19 or 20 right, you're superb; 17 or 18, just wonderful; 14 to 16, average-plus. Correct answers are listed and explained below:

1 "These are the SALIENT reasons."
A They stand out.
B They'll stand up.
C They're clear.

2 "The general is a MARTINET."
A A military genius.
B A stern disciplinarian.
C A traitor.

3 "He enjoys kingly HABILIMENTS."
A Royal privileges?
B Royal robes?
C The royal suite?

4 "He made a SENTENTIOUS speech."
A He's so romantic.
B He's so argumentative.
C He's so pompous.

5 "Where does he practice GERIATRICS?"
A At the orphanage.
B At the maternity ward.
C At the old folks' home.

6 "She found him too IMPORTUNATE."
A Insistent, was he?
B Inconstant, was he?
C Inconsistent, was he?

7 "It was a PALPABLE error."
A Couldn't forsee it.
B Couldn't see it.
C Couldn't miss it.

8 "They're trying to INVEIGLE me."
A Roping you in?
B Shutting you out?
C Putting you off?

9 "Sylvia is an ORACLE."
A Holy?
B Fair?
C Wise?

10 "He has ASCETIC tastes."
A Very self-indulgent.
B Practices self-denial.
C Completely self-sufficient.

11 "He favors the CONVERSE."
A He's against us.
B He's with us.
C He's for compromise.

12 "How's their PROFLIGATE son?"
A The student?
B The wastrel?
C The genius?

13 "The students are to be SEQUESTERED."
A Initiated?
B Graduated?
C Isolated?

14 "He's very FASTIDIOUS."
A So honest!
B So fussy!
C So quick!

15 "Her beauty is ILLUSIVE."
A It's deceiving.
B It's indefinable.
C It won't last.

16 "That's an effective DETERGENT."
A Stops trouble.
B Postpones action.
C Removes dirt.

17 "That's an INSCRUTABLE look."
A He's very angry.
B He's completely bewildered.
C He's a regular sphinx.

18 "This ax has a perfect HELVE."
A A fine handle!
B A sharp blade!
C A nice balance!

19 "He's DECOCTING the formula."
A Breaking it up?
B Boiling it down?
C Pouring it out?

20 "That was a MALEVOLENT act."
A Accidental?
B Criminal?
C Spiteful?

ANSWERS

1 A Salient (SA-le-yunt) means outstanding, conspicuous; it comes from the Latin word *salire,* to leap.

2 B A martinet (mar-tuh-NET) is a taskmaster who is overstrict; it derives its meaning from a Frenchman named Martinet who was a severe drillmaster.

3 B Habiliments (huh-BIL-i-munts) are articles of clothing; attire.

4 C A sententious (sen-TEN-shus) speech is one that employs many proverbs and obvious truths; it has come to be an uncomplimentary word, meaning pompous in speech.

5 C Geriatrics (jerry-AT-ricks) is the branch of medicine dealing with old age and its diseases.

6 A Importunate (im-POR-chuh-nit) means annoyingly persistent or insistent; from a French word for annoy, or wheedle.

7 C Palpable (PAL-puh-b'l) is from the Latin *palpare,* to feel. It means capable of being felt; hence, obvious.

8 A To inveigle (in-VAG-g'l) is to persuade by inducements or flattery; it comes from a French word meaning "to blind."

9 C An oracle (ORE-uh-k'l) is a voice of wisdom; deriving from the Latin *orare,* to pray, it originally meant the reply of a deity, or of an inspired priest.

10 B Ascetic (uh-SET-ick) means self-denying, or abstemious; often applied to those who relinquish worldly pleasures for religion.

11 A The converse (KON-verse) of some thing is the opposite or contrary; the Latin *conversus* means turned around.

12 B Profligate (PROF-lih-gate) means dissipated or wickedly extravagant; the Latin *profligare* means to destroy.

13 C To sequester (see-KWES-ter) anything is to separate it from others; to isolate.

14 B Fastidious (fas-TID-e-us), akin to a Latin word meaning loathing, aversion, used to mean disagreeable it now means dainty or meticulous.

15 A Illusive (ih-LOO-siv) means deceptive, or misleading; the Latin *illusio* means deception.

16 C A detergent (de-TER-jent) is a cleaning substance; strictly speaking, this includes soap. though lately the word has come to apply to cleaners other than soap. The Latin roots of detergent mean to wipe away.

17 C An inscrutable (in-SKROO-tuh-b'l) look is one that you cannot read by closely examining it.

18 A A helve is a handle.

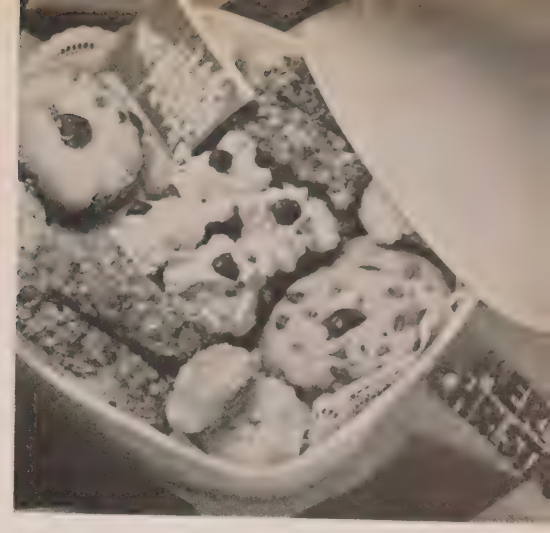
19 B To decoct (de-KOKT) something is to boil it, so as to extract its essence; from the Latin, *de* down, and *coctus,* boiled. Compare *concoction,* a result of boiling things together.

20 C Malevolent (muh-LEV-uh-lent) is from Latin words that mean wishing evil; so it means malicious or spiteful.

—REPRINTED FROM COSMOPOLITAN

HYDRO Home Forum

by Edithemma Dighton
Hydro Home Economist



—Kaufman & Fabry Co

Christmas is a season when the house is transformed and the whole family draws closer together. In most instances it is the electrical decorations and electrical gifts that bring cheer and comfort into the home.

* * *

The Christmas tree is one of the focal points of the festive season. Children stand in awe and admiration before it, and of course, the gaily-wrapped parcels spread around it have a special interest for them.

* * *

Did you know that resin forms a hard coating over the bottom of a Xmas tree after it has been cut? This prevents the tree from absorbing moisture even though it is placed in water when set up in the house. To ensure a green, fresh tree throughout the Christmas vacation, make a slanting cut two or three inches above the bottom of the tree, then place in wet sand.

* * *

To make a holly tree: Set up a tinker-toy set on a tray as the skeleton for the tree. Place pieces of holly in the holes in the blocks to form the branches. Spray with imitation snow and place glass balls around the base.

* * *

Another Christmas novelty is a candy tree name-holder. Use a large red or green gumdrop for the base and a thin candy stick for the trunk. Top with a cone made from a small lace doily and ribbon bow. Slit gumpdrop to hold the paper on which each name is written.

* * *

Invent snowball gifts: Use a small coffee can covered with absorbent cotton, which may be glued on. (The can may contain candies or cookies). The gift is then sprinkled with imitation snow and topped with a holly sprig.

* * *

Emergency shelf items for the holiday season may include canned potatoes. There are also canned sweet potatoes.

With a lot of leftover turkey arrange alternate layers of sliced turkey, boiled rice with sliced pimento and mushroom soup in a casserole. Sprinkle with crumbs and chopped nuts. Dot with butter and bake for an hour in electric oven of 350 degrees.

* * *

Turkey Newburg: Heat together in double boiler 1 cup milk, 1 can sliced mushrooms and 2 cups cubed cooked turkey with appropriate seasonings. Mix 4 tbsps. sherry with 2 slightly beaten egg yolks, add to turkey mixture slowly, stirring constantly until it thickens, but no longer. Serve on toast.

* * *

Leftover dressing: Slice dressing, dip slices in between egg and place in a greased casserole. Heat until hot and serve, topped with a spoonful of hot spiced cranberry sauce.

* * *

New light on the subject of old shades! If your bedroom lampshades are faded or clash with the color scheme, make them over with several yards of shirred ruching. Calculate the yardage by measuring the diameter and multiplying 3½ times. Tack rows on the shade beginning at the top.

CHRISTMAS MACAROONS

½ cup honey
1 egg white
¼ tsp. salt
1 cup toasted rolled oats
¼ cup sliced red cherries
¼ cup sliced citron peel

Beat egg white, add salt and honey gradually; beat thoroughly. Toast coarse oatmeal by placing on large shallow pan in the oven. When partially cool fold in the mixture; also add cherries and peel. Drop by spoonfuls on greased baking sheet. Bake in electric oven at 325 degs. for 15 mins.

There is actually no excuse for hunting ducks to get a taste of them. Ducks can be purchased in a can—prepared and cooked in butter. All the men have to do is take a couple of cans along on their trip; ream off the lid and heat.

* * *

When you simmer turkey bones for stock, don't forget to season with onion, parsley, carrot and herbs — rosemary and thyme particularly.

* * *

There's more than one way to make the most of mincemeat, whether of the home or commercial type. You can stuff apples with it, heat it with an ice cream sauce, use it for fruit dumplings or for upside down cake.

* * *

To steam fruit puddings, cover the tops with foil or several layers of heavy wax paper. A cloth is not satisfactory as it lets too much moisture through. Place bowls or cans of covered puddings in a kettle. Use a pad of newspaper or two sticks of wood to keep the containers off the bottom. Add hot water. Each container should be half-covered with water. Cover kettle and heat 25 to 45 minutes.

* * *

Save the fat from fowl. Pour into a saucepan, add an equal amount of cold water. Bring to a boil, remove from the range and chill. The fat will rise to the top. Skim off and use for biscuits, pastry, sauces and gingerbread.

* * *

Sweet-and-sour spareribs: Allow 1½ lbs. back spareribs for four people. Cut into small pieces and dip into 2 beaten eggs, then into flour and fry quickly about 20 minutes. Serve with a sauce made of 1 cup water, ½ cup vinegar, ½ cup brown sugar, ⅔ cup tomato catsup and 2 tablespoons cornstarch.



Niagara Engineers Elect Officers

AT the recent annual meeting of the engineering section of the A.M.E.U.'s Niagara Region, Ray Pfaff, Manager of St. Catharines Public Utilities Commission, was elected President for the coming year.

John Weir, Stamford Township, was named Secretary, and Frank Sutherland, Manager, Beamsville R.O.A., Ontario Hydro, Treasurer.

Presentation

A feature of the meeting was the presentation made to C. E. Kirkby, former Manager and Secretary of Stamford Township P.U.C., who is now Manager of Woodstock P.U.C.

A. S. Robertson, Manager, and Russell McCullough, Operations Engineer, Niagara Region, Ontario Hydro, discussed plans for power supply to the Niagara Peninsula districts during the next few years.

Name Committees

Chairman of committees for 1952 are as follows: T. W. Houtby, Manager and Secretary of Welland Hydro-Electric Commission—Accounting; J. A. Williamson, Manager of Niagara Falls Hydro-Electric System — Rates; John Dawson, Dunnville Public Utilities Commission — Meters; A. M. Bizzel, Niagara Falls — Frequency Standardization methods; G. F. Jannaway, St. Catharines — Engineering.

Pheasant Dinner

WHEN W. R. Catton, Manager of Brantford P.U.C., goes pheasant hunting, he shares his luck with friends and associates. Returning from this year's shoot on Pelee Island recently, he entertained members of the local commission and representatives of Ontario Hydro at a dinner held at the Brantford Club.

The guest list included P.U.C. Chairman W. E. McLaughlin, Vice-Chairman R. S. Stacey, Commissioners K. V. Bunnell, L. W. Turvey, Mayor Howard E. Winter, H. Louis Hagey, K.C., the Commission's Solicitor, E. L. Gothard, Secretary-Treasurer, W. Secord, Assistant Manager, Hydro and Water Departments; and G. P. Henderson, Manager Transportation Department, all of Brantford P.U.C.

Representing Ontario Hydro were W. Ross Strike, K.C., Second Vice-Chairman; Richard L. Hearn, General Manager and Chief Engineer; A. W. Manby, Assistant General Manager—Administration; H. D. Rothwell, Administrative Assistant, Regions, and R. M. McKenzie, Manager West Central Region.

Thornton Heads Meter Group



Earl Thornton

AT the fall meeting of the Western Ontario Meter Association, held in Windsor, Earl Thornton of Ingersoll P.U.C. was elected President for the coming year. G. E. McClymont of Chatham P.U.C. was named Secretary-Treasurer.

More than 125 members heard Douglas Bruce, Sangamo Company, read a paper on Demand Meters, E. B. Foster, Manager of the meter and instrument section of C.G.E., presented a paper on Photo-Electric Watthour Meter Testing.

Elected to the executive were Leslie Allen, Windsor P.U.C.; Allan W. Lawson, Sarnia P.U.C.; Lorne McVicar, St. Thomas P.U.C.; Thomas Lewis, Western Region, H.E.P.C.; E. W. McMurray, London P.U.C.; Norman Wilson, Amherstberg P.U.C.; Stanley Webster, Superintendent, Tillsonburg P.U.C.; Michael Cook, Woodstock P.U.C.; J. C. Smith, Federal Government meter inspector, London; and Gerald Near, St. Marys P.U.C.


Merry Christmas





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HYDRO News



JANUARY, 1952

VOLUME 39 NUMBER 1

Published by

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

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Continuing Expansion

REVIEWING Canada's progress in the field of power development during 1951, Hon. Robert H. Winters, Minister of Resources and Development, recently pointed out that the nation's hydro-electric capacity had reached a grand total of 13,340,774 horsepower, about 24 percent of known resources.

In his summary, the Resources Minister reported that production of electrical power in 1951 was up 13 percent over the previous year. This increased production was made possible by the output of new generating stations, with a total installed capacity of 881,250 hp., which were placed in operation during the year just past.

Looking to the future, he stated that new plants and additions to existing stations, scheduled for operation in the 1952-53 period, would further augment Canada's output by some 1,700,000 hp., while an equal amount would become available in 1954-55 if present plans materialized.

This indication of continuing expansion in the development of the country's power potential is highly encouraging, reflecting a vigorous and prosperous economic situation.

Nowhere is this more evident that in Ontario itself. In 1945, the value of this province's manufactured products was in excess of $3 billion. Although final figures for 1951 are not available yet, it is expected that this figure will be in the neighborhood of $9 billion.

In keeping pace with this rapid growth, Ontario Hydro has been engaged on a $900,000 program of expansion. Figures tell a story of commendable achievement. Since 1945, the Commission's dependable peak capacity has increased from 2,597,185 hp. to 3,943,029 hp. or 51.9 percent at the end of 1951. When the present program has been completed in 1955, Hydro will have augmented that capacity by approximately 3,100,000 hp. or 120.5 percent in 10 years.

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COVER PHOTO

OUR front cover this month is dedicated to those men who labored long and faithfully to bring power to the people of Manitoulin Island. This view shows the 44/12-kv transmission line completed a few months ago to serve a steadily-growing number of customers in this picturesque part of Ontario.

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—Photo by J. Burt Helling

Third site on the Ottawa River to be harnessed by Ontario Hydro since 1945, the Otto Holden development near Mattawa will add 257,000 horsepower to the Commission's resources. Here the thundering waters of the Ottawa are shown passing through the temporary diversion sluices in the main dam.

A YEAR IN Review

by

Harry M. Blake



TWO projects of first magnitude and of the most vital importance to the future progress of the province and the welfare of its people engaged the attention of Ontario Hydro during 1951. These were the proposed St. Lawrence power development and the development at Niagara known as the Sir Adam Beck-Niagara Generating Station No. 2.

Together, the St. Lawrence and the new Niagara development, viewed in their entirety, represent an electrical resource of 2,300,000 horsepower. Included in this figure is 1,100,000 horsepower representing Ontario's share of the output of the proposed joint St. Lawrence development, and 500,000 horsepower to be brought into service at some yet undetermined future date when the second stage of the Niagara Project is carried out. The sum of these resources is approximately only 263,000 horsepower short of the total combined capacity of the Commission's 65 hydro-electric stations as recorded at the end of 1950.

Following the announcement that Canada would be prepared to proceed with the St. Lawrence Seaway on an all-Canadian basis if the United States remained unwilling to share in the undertaking, an historic document was signed at Ottawa in December, 1951, by virtue of which the Government of Canada made available to Ontario all the Canadian rights to the power resources of the International Rapids Section of the St. Lawrence. Signatories were Rt. Hon. Louis St. Laurent, Prime Minister of Canada; Hon. Lionel Chevrier, Minister of Transport; Hon. Leslie M. Frost, Prime Minister of Ontario, and Acting Provincial Secretary Hon. George H. Challies, First Vice-Chairman of Ontario Hydro.

New Niagara Development

In January, 1951, following treaty revision providing for the use of more water at Niagara for power purposes, construction was begun on the Commission's new hydro-electric project. This is a two-stage development, designed to provide an ultimate generating capacity of 1,200,000 horsepower.

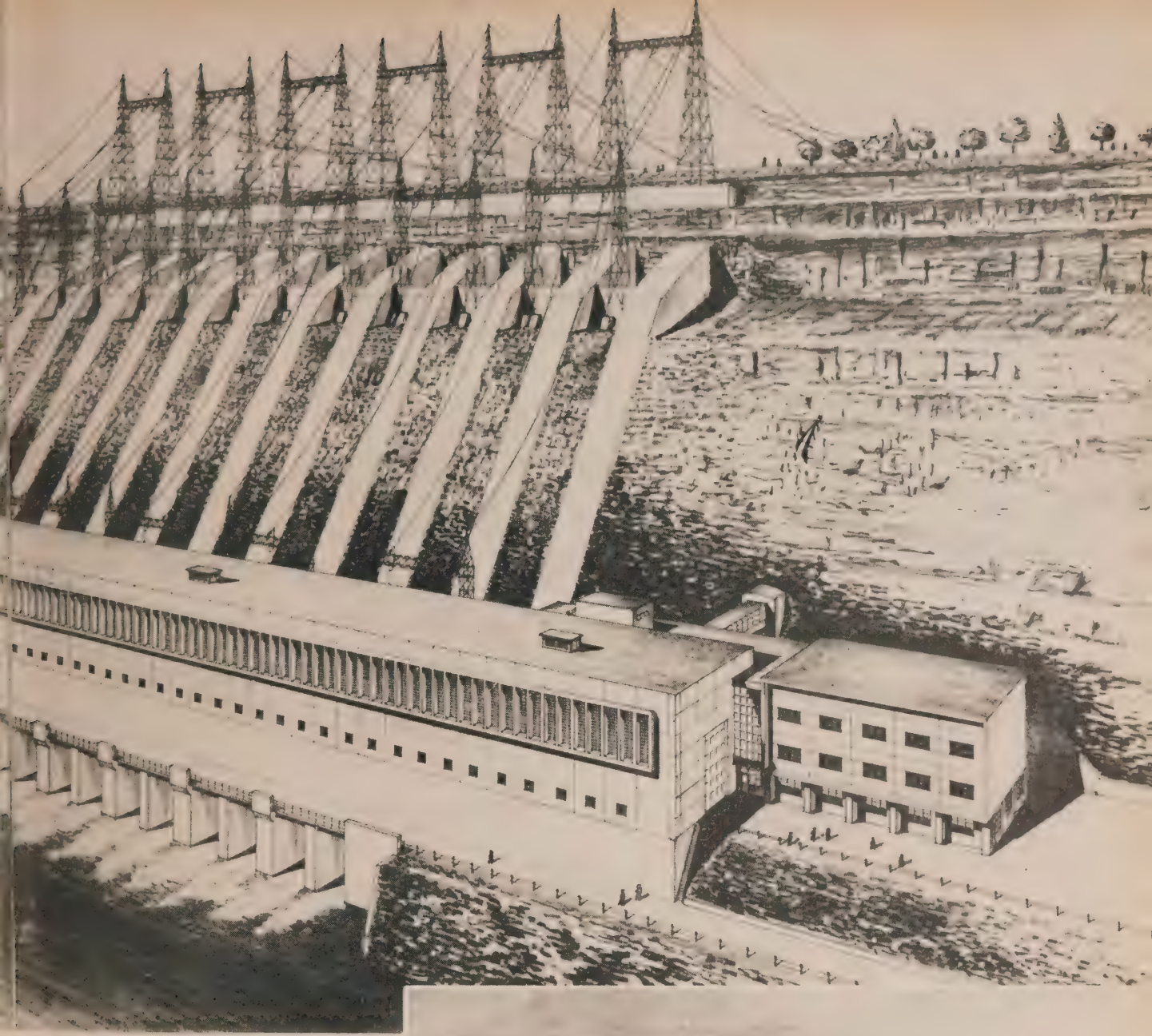
Far exceeding in magnitude any previous power project undertaken by the Commission and regarded as one of the greatest developments of its kind carried out in any part of the world, the first stage of construction is scheduled for operation in 1954. Immediately available that year will be an output of 400,000 horsepower, while an extension of the original powerhouse planning will bring available capacity derived from the first stage of the development up to 700,000 horsepower by 1955.

Featuring this impressive $182,000,000 project is the twin tunnel system which will convey the water from the intake section on the upper river near Chippawa for a distance of five and a half miles to a point near the Whirlpool Rapids. From there on the water will be carried by open canal over the remaining two and a half miles to the powerhouse forebay at Queenston.

Each of the pressure tunnels will be 51 feet in exterior diameter and 45 feet in interior diameter when lined with concrete. They will be excavated at a depth below ground varying from 250 to 350 feet.

Access to the subterranean tunnel excavation will be provided by five shafts sunk at convenient intervals to accommodate the men, the equipment and the materials required for the undertaking.

The Sir Adam Beck-Niagara Generating Station No. 2 is notable with respect to the number of men in varied occupations to whom it gives profitable employment, under working and living conditions second to none on the American



ARCHITECT'S PERSPECTIVE of the Sir Adam Beck-Niagara G.S. No. 2 by K. H. Candy, Comm. Architect.

continent. Approximately 4,500 men will be employed when construction at the Niagara project reaches its peak.

Steam-Electric Stations

In addition to making a good start on the Niagara project, many undertakings of premier importance associated with pressing immediate requirements were recorded by the Commission in 1951.

Brought into initial service in the fall of the year were the largest steam-electric generating stations in Canada. These were the 536,000-horsepower Richard L. Hearn Generating Station in



SITE OF THE NEW generating station at the Sir Adam Beck No. 2 project. This development when in full operation by 1955 will produce approximately 700,000 hp. Sir Adam Beck No. 1 G.S. is visible on the right.



ON DECEMBER 3, 1951, Canada made available to Ontario all Canadian rights to the power resources of the International Rapids section of the St. Lawrence River. Signatories are shown signing the historic document, left to right, Acting Provincial Secretary Hon. George H. Challies, First Vice-Chairman, Ontario Hydro; Ontario Prime Minister Leslie M. Frost; Prime Minister Louis St. Laurent and Hon. Lionel Chevrier, Minister of Transport. Hydro Chairman Robert H. Saunders was present at ceremony.



AN IMPRESSION of the St. Lawrence Power Project. This project involving the development of 2,200,000 horsepower, would, if approved, be a joint undertaking, Ontario receiving 1,100,000 hp

Toronto and the 354,000-horsepower J. Clark Keith Generating Station at Windsor.

The official opening of the Richard L. Hearn G. S. took place on October 26, when the first unit, which will operate temporarily at 25 cycles was brought into service. The second unit will operate at 60 cycles; the third at 25 cycles, and the fourth, at 60 cycles. By this arrangement power at the two frequencies will be supplied to the greater Toronto area until standardization at 60 cycles is completed in the district. All four 100,000-kilowatt (134,000-hp.) generating units will then operate on the higher frequency.

The first of the four 66,000-kilowatt is estimated at $67,000,000.

The first of the four 66,000 kilowatt (88,500 hp.) 60-cycle units of the J. Clark Keith Generating Station was placed in service on November 16, 1951. A second unit is expected to be in operation early this year; a third in the autumn of 1952, and the fourth, or final unit under present planning, in the fall of 1953.

Cost of the J. Clark Keith G. S. is estimated at $47,000,000.

It was originally intended that these two steam-electric generating stations should function principally in meeting peak load demands during the fall and winter seasons of the year. However, with Southern Ontario industries continuously engaged upon Canada's defence program, there has been a considerable levelling-off of seasonal peaks. Today the power situation may be summed up as a high, unremitting and increasing demand for electricity in practically every month of the year.

Frequency standardization, too, calls for assistance from the two steam-electric stations. Reference has been made to the role of the Richard L. Hearn G. S. The J. Clark Keith G. S., through the E. V. Buchannan Transformer Station near London, will feed 60-cycle power—co vertible, as required, to 25-cycle power—into the areas of Western and Mi Western Ontario wheer the change-ov is now proceeding.

There is every indication now that th Toronto and Windsor steam-electric st tions will be "year-round" stations. Th will substantially increase the cost power production to the Commission an has been cited as another very coge reason why the St. Lawrence Pow

Project should be undertaken without delay.

Railway Diverted for Headpond

The autumn of 1951 witnessed the completion of a unique undertaking by the Commission. This was the building of a railway in Northern Ontario.

Some 50 years ago, a branch line of the Canadian Pacific Railway was built from Mattawa to Timiskaming and in recent years extended farther north. The older section followed the Ottawa river at low level, and it was found necessary to divert some 38 miles of this line to provide a suitable headpond for Hydro's Otto Holden Generating Station, located about five miles above Mattawa. For much of the distance the new roadbed had to be cut into the flanks of towering gneiss and granite cliffs, and between the rocky ranges there were swamps and valleys to fill in or bridge over. For its size, it was regarded as one of the heaviest jobs of its kind carried out in Eastern Canada, comparable only to sections of the C.P.R. mainline which were carved out of the frowning shores of Lake Superior.

The Otto Holden Generating Station will have a capacity of 192,000 kilowatts (257,000 horsepower) and was ready for service tests on January 10, 1952. It is expected that seven of the eight generating units will be in operation by the end of this year, with the eighth unit following early in 1953.

For some time the Otto Holden G. S. will probably be called upon to supply most of its power to Southern Ontario where the demand for electricity is greatest. To effect this transfer, a 230,000-volt transmission line now connects the station with Des Joachims G. S., 60 miles downstream on the Ottawa river. The Otto Holden Station is also well situated to help meet increasing demands in Hydro's Northeastern Region and connections have been made with Crystal Falls G. S., near North Bay, with this objective in view.

Estimated cost of the Otto Holden G. S. is $55,000,000.

In November, 1950, the Commission brought into initial service the 120,000-kilowatt (160,000-hp.) Chenaux Generating Station on the Ottawa river. Situated about 50 miles below the 480,000-horsepower Des Joachims G. S., this station was in full service in September, 1951, serving Eastern Ontario in particular but contributing to the power pool established throughout the Southern Ontario System.

New Transmission Lines

During 1951, 151 route miles of 230,000-volt steel-tower lines, 54 miles of 115,000-volt steel-tower lines and 280 miles of 115,000-volt wooden pole lines were added to Hydro's major transmission systems.

In Northeastern Ontario a 115,000-volt line was extended from the Kirkland Lake area to Kapuskasing, and a 24,000-volt line continued on to Hearst to provide service to that town as well as rural and other customers.

In Northwestern Ontario a 16,000-kva transformer station, with an initial capacity of 8,000 kva., was constructed and placed in service at Moose Lake near Atikokan to provide additional power to the important iron mines in that locality. The 125-mile, 115,000-volt line from Moose Lake to Dryden was also completed and placed in service, connecting with the Ear Falls circuits on the English river in the supply of power to gold-mining and newly-developed farming areas.

Practically all the trunk transmission lines connecting Hydro's new generating stations with distribution centres had been completed in 1950, but 118 miles of new 230,000-volt line were built in 1951 to connect the J. Clark Keith G. S. in Windsor with the E. V. Buchanan T. S. near London, and 121 miles of 230,000-volt circuit were erected on existing towers between the Essa T. S. near Barrie and the



HYDRO'S major 480,000-horsepower Des Joachims G.S. on the Ottawa River was placed in full service early last year.



OFFICIALLY OPENED in November, J. Clark Keith Generating Station at Windsor will have ultimate capacity of 354,000 hp.

LARGEST IN CANADA, the 536,000-hp. Richard L. Hearn Generating Station in Toronto was placed in service last October.





ANOTHER FEATURE of the Commission's operations in 1951 was the progress recorded in bringing power to small communities in Northern Ontario. Here Chairman Saunders turns on the power at Manitoulin Island's Wikwemikong Indian Reserve.

gram in Southern Ontario, has already brought the benefits of 60-cycle power to approximately 178,400 customers of all classes, or one-fifth of the estimated total of 886,000 customers in the dwindling "25-cycle island."

During the first 14 months in the unprecedented changeover operation — that is from its inception in Scarboro Township in October, 1949, to the end of 1950 — 86,000 customers had their electrical equipment standardized at 60 cycles.

Indicative of the increasing speed and efficiency with which the huge program is being carried out, is the fact that during 1951 alone, the equipment of 92,400 additional customers was altered for 60-cycle operation.

This involved the changing over of 449,000 appliances during the year, making



FARTHER NORTH the bustling town of Hearst joined the growing Hydro "family" taking its place among the 1,132 other Ontario municipalities which are being supplied by the Comm

E. V. Buchanan T. S. to transmit additional power for the London and Windsor areas.

The 115,000-volt lines built in 1951 are employed mainly in linking up key transformer stations and "power departure" points.

By December 31, 1951, there were some 4,700 route miles of Hydro transmission lines in Ontario operating at 115,000 or 230,000 volts.

Rural Progress

Notable progress was made by the Commission during 1951 in the rural field.

In all Ontario, there was an estimated addition of 3,415 miles of line constructed and an estimated addition of 31,486 rural customers. Total rural line in service, including lines transferred to municipalities during the year, was estimated at 38,134 miles and total customers served at 318,606—more than double the number served just over six years ago.

The increased use of power by rural customers is well revealed in consumption statistics. During the period January 1 to November 30, 1950, the consumption of electricity by Hydro rural customers throughout Ontario was 858,294,000 kilowatthours. Consumption over the same period in 1951 was 1,001,834,000 kilowatthours — an overall increase of 16.7 percent. The increase in Southern Ontario was 15.7 percent; in the Thunder Bay System 16.1 percent, and in the Northern Ontario Properties 43.1 percent.

Frequency Standardization

Hydro's Frequency Standardization program in Southern Ontario, has already brought the benefits of 60-cycle power to approximately 178,400 customers of all classes, or one-fifth of the estimated total of 886,000 customers in the dwindling "25-cycle island."

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This involved the changing over of 449,000 appliances during the year, making an aggregate total of 792,000 items standardized since the program commenced.

A supplementary standardization plan drawn up in January, 1951, played an important new role in the changeover activity. This plan provided for 60-cycle power being made available in advance for new industry and plant additions in 27 municipalities where the general standardization program could not be carried out immediately. Its purpose was to reduce the growth of the 25-cycle load and to effect the substantial savings over the cost of later standardizing the 25-cycle industrial equipment.

The cost of the frequency standardization program has been estimated at $200,000,000, but more than $12,000,000 is e

pected to be saved through the use of dual frequency equipment and the development of new techniques applied to the changeover of house meters.

Industrial Power Demands

During the first 11 months of 1951 the average monthly demand for primary power by direct industrial customers of the Commission was estimated at 886,069 kilowatts compared with an average monthly demand of 796,668 kilowatts over a similar period in 1950 — an increase of approximately 11.2 percent. Energy supplied to direct industrial customers — January 1 to November 30 — was estimated at 5,308,609,000 kwhrs. in 1951 compared with 4,449,577,000 kwhrs. in 1950 — an increase of 18 percent.

Hydro Chairman Robert H. Saunders has announced that requests to Ontario Hydro for additional power loads as a result of Ontario's rapid industrial expansion, in December, 1951, were equivalent to half the output of the first stage of Hydro's new Niagara project.

Not less than 22 new establishments were expected to contract with the Commission on the basis of anticipated requirements over the next two or three years. In addition, some 29 existing industrial customers were asking for increased loads.

Altogether, the Commission in the near future expects to be called upon to meet an additional demand by industry alone

HYDRO'S Frequency Standardization program brought the benefits of 60-cycle power to 92,400 new customers during the past year.





NOTEWORTHY PROGRESS was recorded in extending Hydro service to rural customers. Some 3,415 miles of new rural line were built while it is estimated that 31,486 new customers were supplied with electric power.

of some 255,000 kilowatts or 342,000 horsepower.

This, it is pointed out, represents only the additional loads required by direct customers of Ontario Hydro. A great many demands for more power have also been made by industries served by the Hydro municipalities.

Increased Domestic Demand

Increasing demand for electricity by domestic customers throughout Ontario is reflected in reports to the Commission by 35 of the larger Hydro municipalities. These returns, covering the first ten months of 1951, show an increase in electrical energy consumption of 13.7 percent over a corresponding period in 1950. Over the same ten months, electrical consumption by commercial customers increased 19.0 percent and by municipal industrial customers 11.9 percent.

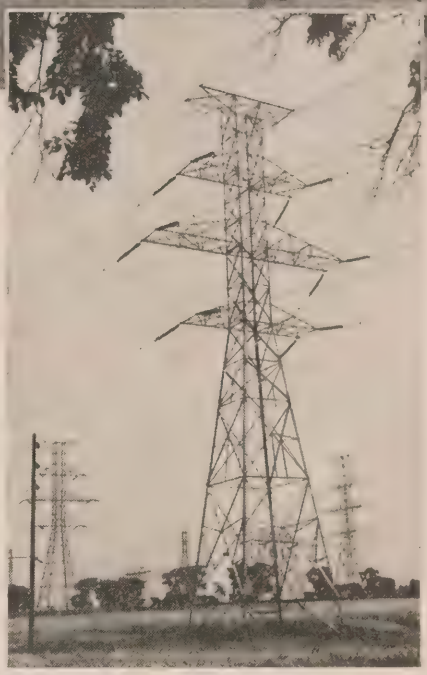
Hydro's Financial Status

At the end of October, 1951, the total assets of The Hydro-Electric Power Commission of Ontario were recorded at $1,008,000,000. This was after deducting $116,000,000 for depreciation. Fixed assets, after a similar deduction were reported as $808,000,000.

These figures are, of course, exclusive of the assets of the Hydro municipalities which furnish their annual financial figures after the end of the year. At December 31, 1950, the total assets of these Hydro municipal systems amounted to $301,451,648, while fixed assets amounted to $156,148,063. Liabilities were $22,935,193.

Hydro financing is done as the funds are needed so that the Commission does not carry debt in excess of

(Continued on page 21)



DURING 1951, some 485 miles of high tension transmission line were connected with the Commission's major transmission systems.



THIS 115-Kv. line between Moose Lake and Dryden connects Hydro's Thunder Bay System with the Rainy River and Patricia Districts of the Northern Ontario Properties.

E. V. Buchanan Retires

V. A. McKillop Succeeds Veteran General Manager

ONE of Ontario's most prominent engineers, Edward V. Buchanan, General Manager of London P.U.C. for the past 37 years, retired from active duty on January 1.

Mr. Buchanan will be on leave of absence until May 6, when he will reach retirement age and will formally hand over the reins to V. A. McKillop, present Acting General Manager.

To mark the occasion, over 400 employees of the London Commission and the L. & P. S. Railway feted Mr. Buchanan at a banquet arranged in his honor. Head table guests included civic and commission officials as well as members of Mr. Buchanan's family. Gifts and flowers were presented to Mr. and Mrs. Buchanan while speaker after speaker paid tribute to the retiring chief as one of the "fathers of hydro-electric power."

Expressing his deep appreciation, Mr. Buchanan said: "Every young man thinks of success. He may think of it in terms of position, power and wealth, but when one comes to the end of his career, and finds himself in the midst of a great gathering like this, with such a demonstration of friendship and affection, one is very humble but very happy, when he finds that the true measure of success is in the friendship of his associates.

"I have no fear for the future of the commission," he continued, "if you will only give my successor, V. A. McKillop, the same support and friendship you have given me, and I know that the commission will go on to even greater achievements."

Joined P.U.C. in 1911

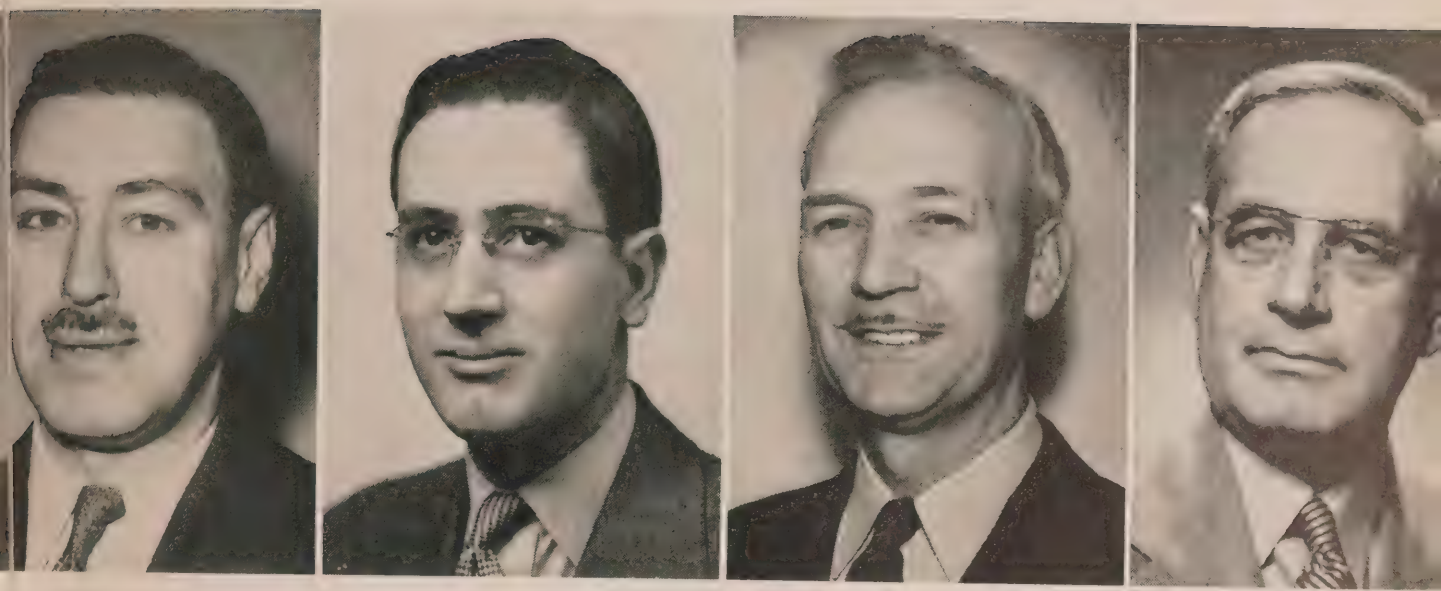
A native of Hamilton, Scotland, Mr. Buchanan graduated in electrical engineering from the Royal Technical College, Glasgow.

He was first employed in the Electricity Department of the Glasgow Corporation, and was also associated with the firm of Sayers and Caldwell, Consulting Engineers.

Arriving in Canada, he obtained a position with H. J. Glaubitz as Resident Engineer in charge of the installation of electric sub-stations at London. In 1910 he was present when Sir Adam

E. V. BUCHANAN, General Manager of London P.U.C. for the past 37 years, congratulates his successor, V. A. McKillop, as he departs on a leave of absence which will end with his official retirement in May. Mr. Buchanan was feted by employees at a banquet arranged in his honor.





ABOVE: Four London P.U.C. officials who recently were appointed to new positions in a staff re-organization following Mr. Buchanan's retirement. Left to right—B. W. Grover, Asst. General Manager; A. L. Furanna, Chief Engineer; T. A. Gagen, Asst. Supt.; G. M. Fraser, Secretary.

Beck switched on the first 25-cycle electric power for London.

He joined London P.U.C. in 1911, and became General Manager in 1915. Mr. Buchanan was an intimate friend of the late Sir Adam Beck, "Father of Hydro," who was instrumental in sending him on an extended tour of Europe where he made a close study of post-war power development in 1918.

Keenly interested in civic enterprises, he also played a prominent role in several engineering organizations. In 1938 he was Vice-President of the Engineering Institute of Canada, and in 1950, Presiden of the Ontario Association of Professional Engineers. In recognition of his achievements in the field of engineering, Ontario Hydro, in December, 1950, re-named its Westminster Frequency Changer and Transformer Station, near London, in his honor. This important plant is known now as the E. V. Buchanan Transformer Station.

P.U.C. Appointments

Mr. Buchanan's retirement has resulted in several important staff changes announced recently by the London Commission. As stated previously, V. A. McKillop will succeed Mr. Buchanan when he formally retires in May. Basil W. Grover, General Superintendent, has assumed the post of Assistant General Manager. Thomas Gagen, formerly Safety Supervisor, has been appointed Assistant Superintendent. Anthony L. Furanna becomes Chief Engineer, while the new Secretary is George M. Fraser.



FOLLOWING THE banquet and presentation ceremonies, many of the guests took the opportunity of offering personal congratulations. In the above photograph Mr. and Mrs. Buchanan, centre, are seen chatting with Mayor Allen J. Rush, left, and P.U.C. Commissioner R.W.D. Lewis, K.C.



TARRED AND WEATHERED

SOME few years after the building of England's first railway from Stockton to Darlington — so the story runs — a prominent London shareholder was spending a week-end with a wealthy country squire.

Like most farmers of the day, Squire Bridgewater held stubbornly to the opinion that the new "iron horse" was a poor substitute for the time-honored equine breed. He had been fairly tolerant of the new railway during its first eight years of service — 1825 to 1833 — because he had been able to sell it horses at a good profit to draw its passenger trains. Now that the railway had begun to use steam power for its passengers as well as its goods traffic, he had turned a hundred percent against it.

Challenge

After listening to a long invective directed against all "daft modern inventions" and railways in particular, the squire's guest made a substantial bet that he could give the fastest horse and gig in the neighborhood an hour's start, and by taking a train from a nearby station, be the first to arrive in Stockton. The squire, who owned the speediest carriage horses in the county, instantly took up the challenge.

When the visitor had arranged for a special train and a clear line — there was still no electric telegraph, but there was time-spacing of trains and passing tracks every quarter mile — a date was set for the carrying out of the wager.

Promptly at 8 o'clock on a bright summer morning, with the shareholder again on hand to witness the departure, the squire set off at a spanking pace in a gig drawn by his favorite grey mare.

In spite of the fact that the squire had provided him with his slowest cob for the four-mile ride to the station, the shareholder found time on his way to call in at the local public house. There, over a tankard of honest ale, he put the story of the bet into circulation, and improved the opportunity afforded for a few good "plugs" for the railway.

Fateful Journey

At the station a "two-wheeler" locomotive — already a considerable improvement on the George Stevenson original — was standing in readiness, attached to the four coaches required to make up the weight of the train as specified in the agreement. When witnesses had attested to the time, the single passenger stepped aboard and the equipage started on its fateful journey.

In order to be certain of beating the squire, the shareholder had estimated that the train would have to average 25 miles an hour. This would establish a record. But the engine-driver had stoutly affirmed that he could maintain that speed, and apart altogether from the wager, it would be a tremendous advertisement for the railway.

Accustoming himself to the sway and swing, as the train, travelling at unprecedented speed, rattled over the points of the passing tracks, the shareholder could see his stock going up and up — until suddenly he was thrown against the roof of the coach by the shock of the train stopping. Gathering himself together, and tossing his crushed "beaver" topper into a corner, he lowered the window and looked out. A man was coming down the track waving a red flag. He stopped for a word with the driver and then came on.

Taking Up The Sleepers!

"Sorry, sir. You'll have to go very slow for the next five miles. We're taking out the old sleepers (ties)."

"Taking out the sleepers! Why, it's less than three years ago that you were at the very same job."

"I know, sir. But in places they're in such bad shape that we've had to replace them again. We can't take any chances with this new fast passenger traffic."

"Can't you wait until I get through? One train more can't make any difference."

"They've got half of 'em out now, sir, and the new ones aren't in place yet."

"How fast can we travel?"

"Five miles an hour, sir. That's the limit. Inspector's orders."

And the squire would be doing at least twelve miles an hour! With a groan the shareholder sank back in his seat, while the train crawled on at a snail's pace through what seemed interminable lines of workers.

Squire Bridgewater had been waiting for half an hour at the Stockton terminal.

"Daft Sort of Carry-on"

"I didn't push Sally," he grinned, as he stuffed the crisp ten-pound notes into his wallet. "I knew I shouldn't have to." Lapsing into the local vernacular, he added a parting shot. "I always said railways were a daft sort of carry-on. I never thought they would come to o'wt."

The shareholder had paid up like a gentleman, but he was very angry. If they couldn't build a railway that would stand up to traffic without frequent costly replacements and delays, there wouldn't be much profit for investors. The directors of the company had apparently the same idea. Losing no time, they are said to have sent out a nation-wide call for a suitable preservative treatment for the cross-ties or sleepers.

The response was amazing. Hundreds of patents for preservative processes were taken out during the next few years. The outstanding one was registered by John Bethell in 1838. He called his product "dead oil of tar". This distillate of coal tar is now known as creosote or creosote tar. With the processes of manufacture vastly improved, today creosote is employed almost universally not only for the

by

Harry M. Blake
Hydro News

cross-ties of railways, but for all kinds of exposed timbers.

A Million Poles

Ontario Hydro has now in service enough wooden poles to support a transmission line girdling the earth at the equator with a sufficient number left over to build two more lines encompassing the globe at the Arctic and Antarctic circles.

At normal spacing this adds up to about 1,500,000 poles, no less than 800,000 of which represent purchases in the past six years. They are used in approximately 5,000 miles of Hydro's transmission line and on 38,000 miles of rural line. The cost of all these poles, exclusive of erection, exceeds $25,000,000. It is therefore, important that, once planted in the ground, poles should last as long as possible. To make them last, they must be treated with a protecting preservative.

Decay of structural timbers, apart from the deteriorating effects of the elements, may be caused by many destructive agents. Among these are boring and egg-laying insects and microscopic fungus organisms. Fungus begins as a seed or spore and spreads swiftly through sprouting roots known as mycellia. These penetrate the cell walls, dissolving the cellulose for food and thereby weakening and eventually destroying the wood. Soil and dampness accelerate this action.

Cedar is a wood that is particularly resistant to fungi, and if cedar poles can be obtained in adequate quantity and in suitable dimensions, they are ideal for hydro-electric medium-voltage and low voltage line construction because only the butt requires preservative treatment. Most of the cedar poles used by the Commission are obtained from British Columbia. There is, however, plenty of pine in our own northern forests to meet most of the demands of rural construction.

Carpenter Ant

Pine, especially after cutting it, is susceptible to both fungus ravages and insect attack. In Ontario, the chief insect enemy of Hydro poles is the carpenter ant.

The trouble with the carpenter ant is that, like the mosquito, he is forever in quest of a higher standard of living. With the mosquito the urge is for richer food — with the carpenter ant, for more pretentious lodgings.

After dwelling in decayed and fallen timber for countless ages, the carpenter



LOADING HYDRO POLES in the yards of the Dominion Tar and Chemical Company at Sudbury. Hydro now has in service about 1,500,000 wooden poles throughout Ontario.

ant has, not unnaturally, been quick to avail himself of the opportunity for better housing afforded by civilization. Many of his family are now living a soft and comfortable life in the porches of town and country houses and summer cottages. Queens aspiring to large families prefer, however, a good pine pole with its sky-scraper accommodations.

Trained worker ants search about for any soft spot in the outer wood of a pole, and having discovered a suitable entrance,

Overall treatment with creosote closes tunnel out a nice room for the *accouchement* of their reigning monarch. When a new colony of ants is hatched, a new apartment is carved out for the future queen and her retinue. This kind of activity goes on and on until a 35- or 45-foot pole is riddled from top to bottom, and, as one might say, at the mercy of every wind that blows.
the door to the carpenter ant just as it prevents penetration by various types of fungi.

Before the war, with a program of tremendously increased line construction in prospect, arrangements were made with the Northern Wood Preservers Limited at Port Arthur and with the Dominion Tar and Chemical Company Limited at Sudbury and Trenton for a large-scale treatment of wooden poles. Both companies have developed highly efficient methods in the processing and application of creosote.

Preservative Treatment

During a recent visit to Northwestern Ontario, *Hydro News* availed itself of the invitation of Stanley Mack, General Superintendent of the Northern Wood Preservers Limited, to visit the company's plant at the Lakehead, where in addition to large quantities of ties and various types of structural timbers, thousands of Hydro poles are treated.

Timbers used for poles are usually air seasoned. They are left out in the storage yards for several months while the moisture in the wood evaporates. Pine is sometimes kiln-dried or seasoned in retorts by steam. The steam and evaporated moistures from the wood are drawn off by a large vacuum pump until the timber is sufficiently dry to treat.

"Creosote," Mr. Mack told us, "is obtained by distilling raw coal tar. For this purpose we operate large tar stills here at our Port Arthur plant. The coal tar comes in by ship from steel mills at Hamilton and Sault Ste. Marie where it is a by-product of the coking ovens."

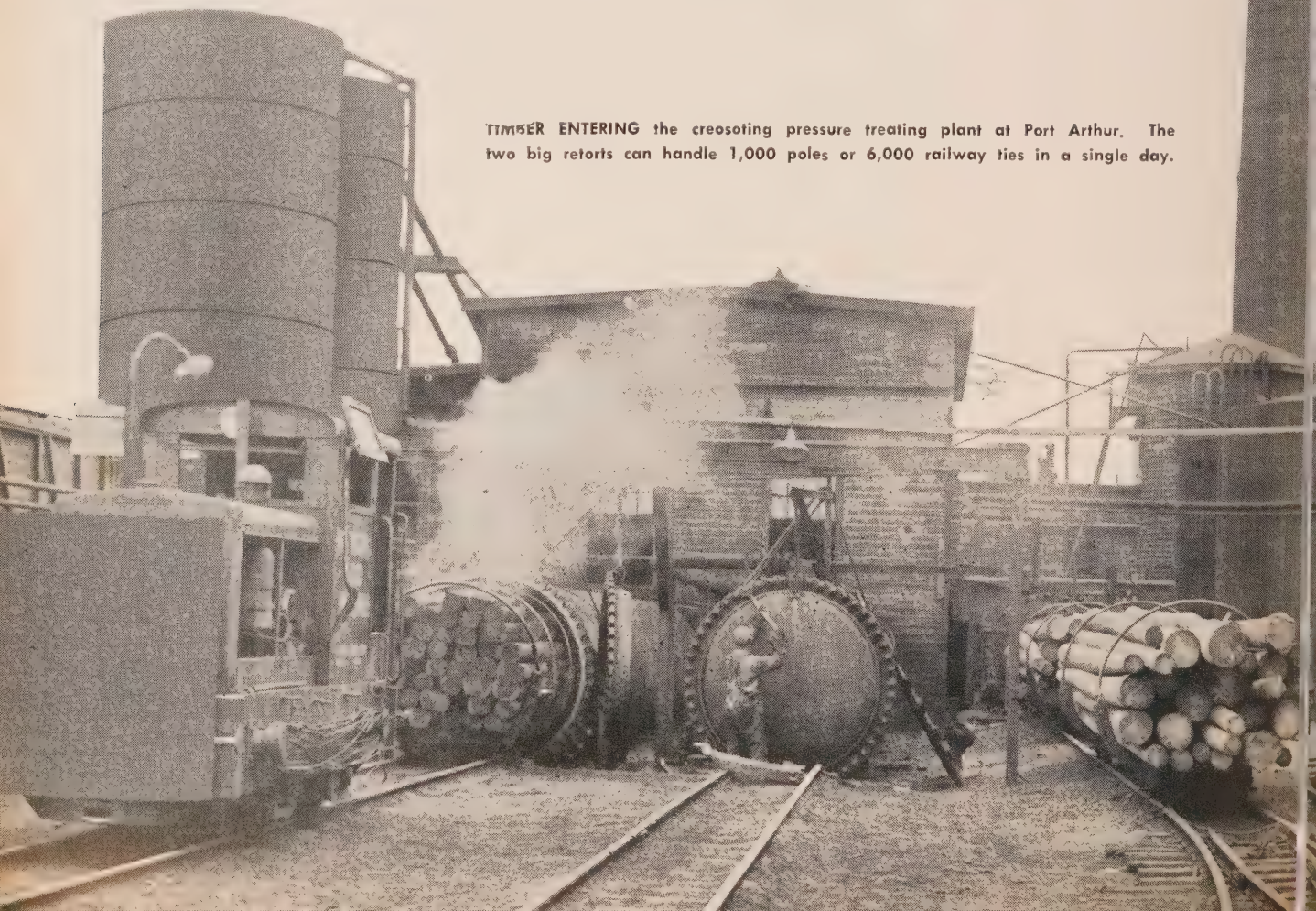
We were taken to see the distilling plant. It consists of four horizontal oil-fired stills, each seven feet six inches in diameter by 16 feet in length. They have a combined average productive capacity of 6,000 gallons of creosote oil a day.

The heartwood of pine and cedar trees, as with all conifers, is protected by an outside layer of sapwood. After pine trees are felled, sections of this sapwood are apt to be penetrated by the spurs of climbing linesmen or through other contacts. It is, therefore, highly desirable that treatments should ensure penetration beyond the sapwood into the outer perifery of heartwood.

Reuping Process

The treatment most commonly used for poles is the Reuping Process. The timber to be treated is placed in an air-tight treating retort. Compressed air is forced into the wood cells under a pressure of about 65 pounds to the square inch. The retort is then filled with creosote which is pumped in against this pressure.

The air pressure is increased steadily until it reaches 160 to 180



TIMBER ENTERING the creosoting pressure treating plant at Port Arthur. The two big retorts can handle 1,000 poles or 6,000 railway ties in a single day.

pounds per square inch and is continued until the gauges in the control room show that the proper amount of creosote has been absorbed, depending upon specification, for every cubic food of wood. Pressure is then released.

The initial air "kicks back" some of the surplus creosote from the wood cells. A final vacuum is drawn to remove the remainder of surplus oil and to bring the final net retention down to six pounds of creosote for every cubic foot of wood. The final retention is varied to meet the specifications of the customer.

Skilled operators control the processes by gauges and thermometers. Automatic recording devices make a permanent record of all treatments.

The creosoting pressure treating plant at Port Arthur consists of two treating retorts, each six feet, six inches in diameter and 140 feet long. In a single day the plant can turn out 1,000 poles or 6,000 railway ties, or 60,000 to 180,000 F.B.M. of lumber — depending upon whether the lumber is dry or green. The plant is laid out so that poles can be treated in one retort while ties or other timber are being treated in another retort at the same time.

For cedar poles the butt treating plant consists of two rectangular tanks each 12 feet by 16 feet by 12 feet deep. In these some two carloads of Western Red Cedar poles can be treated per day on a custom basis and by non-pressure methods.

The Northern Wood Preservers employs 300 men in its plants at Port Arthur, Ontario, and Prince Albert, Saskatchewan. In addition it is engaged in extensive timber operations in which an almost equal number of men are engaged.

Treating Plant At Sudbury

The Dominion Tar and Chemical Company, Limited, operates twelve creosoting plants and five crude tar distillation plants across Canada, including very large and well-equipped establishments at Sudbury and Trenton, Ontario, where a large number of Hydro poles are treated. We were privileged to visit the plant at Sudbury under the guidance of P. I. Ward, the Works Manager. About 30,000 poles — all red and jack pine, were being handled at the time.

That Canadian railways are as anxious about the economical maintenance of their lines as was the Stockton and Darlington Railway in earlier days was evidenced by the space reserved for ties in the storage yards. There was room, we were told for no less than two million. To transport the ties and lumber within the plant area, nine miles of standard gauge and seven miles of narrow gauge have been laid down. The plant has its own diesel electric locomotive and some two hundred cars.

When poles arrive at the yard, they are machine-peeled and framed before they are seasoned. Creosoting equipment consists of two 7′ x 150′ cylinders with complimentary equipment including pumps, compressors, condensors and boilers.

There is a test plot for creosoted poles at Sudbury where Ontario Hydro and the company have been carrying out joint experiments over the past year.



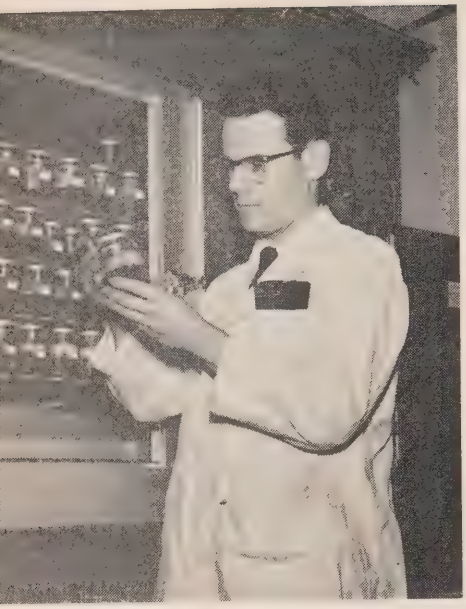
TESTING PLOTS for determining the best creosote manufacturing processes to ensure a clean, dry pole have been utilized by Ontario Hydro with satisfactory results in conjunction with the research work of such contracting companies as the Dominion Tar and Chemical Co. at Sudbury.

Laboratory Research

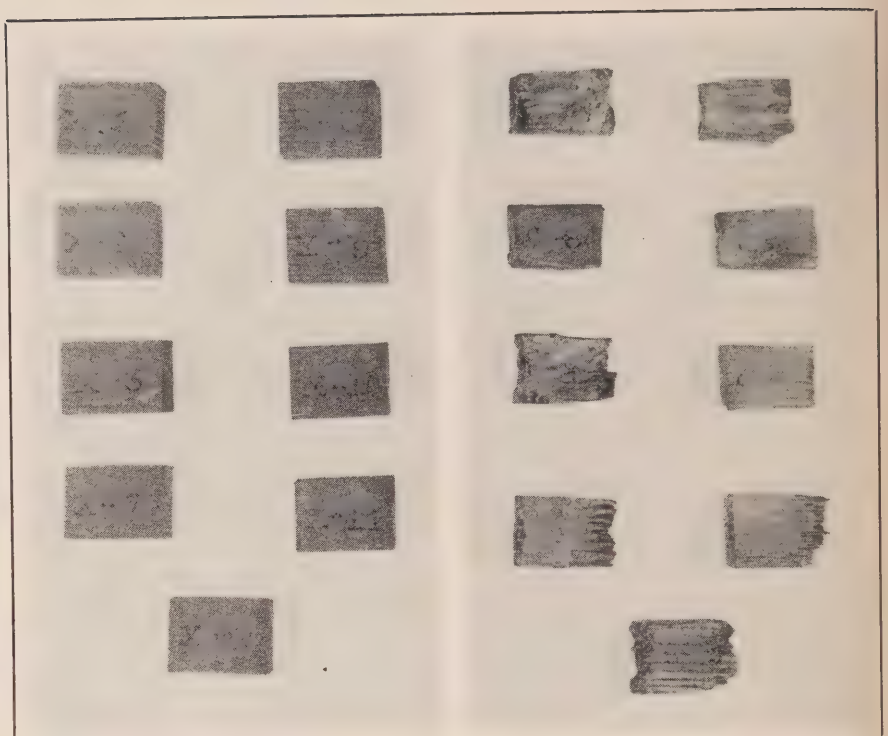
In addition to the research carried out by the two contracting companies, the Hydro Laboratory has been experimenting on its own in an endeavor to discover a preservative that will provide an ideally clean pole with as long a life as the improved creosote processes give it.

After a lengthy period devoted to experimenting with copper sulphate, zinc chloride, chromated zinc chloride, chemonite and "green salt," the Hydro Laboratory developed a preservative of its own. This was called copper pentachlorophenate, and, in spite of its name, it was proved to have all the advantages of easy application. Still more important, it gave an ideally clean, dry surface to the pole. Unfortunately, calculations showed it would be much more costly than the existing creosote treatment.

Research is a persistent as well as a painstaking business. After working out new formulae, the laboratory technicians



GEORGE PARKER, Technician Foreman, Ontario Hydro's Research Division, examines specimens of wood which have been impregnated with preservative, artificially weathered, and exposed to wood-destroying fungi.



LABORATORY-ACCELERATED decay tests showed some interesting results when the preservative "pentachlorophenol," now in standard use by the Commission, was applied to wooden test blocks. After extended tests the treated blocks, left, were still in perfect condition. On the other hand, untreated blocks, right, showed decay over the same test period.

again set up their experimental equipment and relit their Bunsen burners.

Today Hydro research is being directed to an alternative treatment under the simpler name of Copper Borate. Experimentally, wood treated with this preservative has been shown to lose none of its strength through the action of the salts in the chemical solution. Copper Borate also imparts the smooth, dry surface of untreated wood but is much less vulnerable to fire.

Copper Borate

Properly seasoned wood, it is claimed, can be very easily treated with Copper Borate. Water is used as the solvent. When the water evaporates, it leaves the toxic salts within the wood to resist the attacks of fungi and insects.

The two contracting companies, however, insist that laboratory work can be regarded as only experimental. The acid test of a treatment, they point out, is the durability it will give a pole after it has been erected. Both companies have been fighting the bugaboo of rotting timber for many years and they have tried many different kinds of preservatives, some of which are being used where conditions and specifications permit. Both companies are emphatic in stating that, where super

(Continued on page 23)



GERALD MURPHY, technician in Wood Preservation and Organic Laboratory of Research Division examines wood for signs of decay.

HYDRO *Home Forum*



by Edithemma Dighton
Hydro Home Economist

A wise resolution: "Eat Breakfast." A good breakfast should include fruit or fruit juice; a whole grain bread or cereal (made from approved flour, cracked wheat or oatmeal); an egg or bacon, or both; milk, tea or coffee; jam and sugar.

* * *

A well-planned, well-packed lunch will result in better health and in greater efficiency. Here's one suggestion: tomato juice, minced meat and celery sandwich, cheese and crackers, carrot sticks, gingerbread and hot chocolate.

* * *

Dinner suggestion: Cream onion soup, baked spareribs, roast potatoes, mashed turnips, vegetable salad, apple crisp and beverage.

* * *

If grapefruit is unusually sour, sprinkle with a little salt.

* * *

Lemons keep much longer when stored in covered jars or sealers.

* * *

When you peel too many potatoes store the extra ones in the crisping pan until the next day. They do not darken and need not be soaked in water.

* * *

An extra loaf of bread is always a big help. If kept in its original wax paper wrapper and stored in the electric refrigerator the sliced bread will be fresh—even after a week or more.

* * *

Carrot and turnip sticks keep well in a sealed jar in the refrigerator. Every few days, run fresh cold water into the jar. Drain out, then re-seal.

* * *

Something new across the border is the electric plant-cubator. It resembles a giant aquarium but is used for raising orchids and tropical plants.

* * *

Even a table now has its ups and downs. A new table, now available in Canada, can be used as a coffee table or as a dinette or card table. Equipped with drop leaves, this handy piece of furniture may be adjusted to the appropriate height by means of an ingenious spring mechanism.

* * *

For unpainted furniture there's something new for a modern finish. "Rez" primes and seals unpainted wood. Then you can add a gloss coating of this plastic finish.

* * *

Hand-woven metallic table mats can be washed—providing you use a lather of hand soap. Plunge up and down in the water. Rinse in borax water. Place flat on a heavy towel to dry.

* * *

Those yellow streaks on the linoleum floor are usually caused by layers of self-polishing wax that were not removed completely by washing. However, it may be due to inferior wax or uneven application.

* * *

Black streaks on linoleum may be removed by rubbing them with a liquid wax polish, containing a solvent, or a spot cleaner ordinarily used for fabrics. If you don't happen to have any of these, rub marks lightly with fine steel wool.

* * *

To use a wax applier: first moisten it evenly with water. Pour a small amount of liquid wax on the floor in one corner of the room. Dip the applier into the wax until it is well-coated, then remove excess wax by pressing against the floor once or twice. Use long, even strokes slightly overlapping but never going back over the same path. Let the wax dry for at least 20 minutes. Note: always wash your wax applier after every use.

* * *

You can do it! Bake drop tea biscuit batter in a hot waffle iron.

* * *

Delicious all-brown potatoes are baked nicely around the roast if you add a cup of bacon dripping or a cup of shortening to the meat when placed in the oven. Then, allow 1½ hours roasting time.

* * *

For oven-brown potatoes minus the crusty top, parboil them for 15 minutes, drain and then place in the dripping around the roast. Roasting time is one hour for these potatoes.

* * *

A tempting rice dessert is made by combining 1 cup cooked rice, 1 cup drained sweetened pineapple, 2/3 cup whipped cream and 12 diced marshmallows. Place in sherbet glasses and serve.

* * *

Tiny beads on a meringue may be caused by using too much sugar. The correct proportion is 2 tablespoons of fine granulated sugar for one egg white. This is sufficient for one 7-inch pie.

STUFFED VEAL SHOULDER

5-pound veal shoulder
Salt and pepper
Chili or Raisin Stuffing
Melted fat or salt pork

Have bones removed from veal shoulder, season cavity and fill with stuffing. Sew or skewer edges together and place on rack of roaster. Brush with fat or cover with strips of salt pork. Bake uncovered, in electric oven of 325 degs., allowing 40 minutes to the pound, or until meat thermometer registers well-done.

KITCHENER'S NEW $200,000 TRANSIT TERMINAL.



DR. S. F. LEAVINE, M.P.P., Waterloo North, cuts the ribbon and officially opens Kitchener's new transit terminal. Pictured with Dr. Leavine is Chairman Ivan Shantz of Kitchener P.U.C. which handles transportation services for the city and its neighbor Waterloo.

CLIMAXING an enviable record in the public transportation field, the Kitchener Public Utilities Commission recently opened its new $200,000 transit terminal and administration building.

Responsible for transportation in Kitchener, the twin city of Waterloo, and surrounding district, the local commission administers what has been described as one of the finest transit systems in the province.

The rapid growth of Kitchener's cross-town service is reflected by statistics which show that the number of vehicles has increased from five to sixty since it was inaugurated in 1939. The number of passengers is now 55,000 per day compared with 55,000 a month in the first year or more of operation.

In addition to providing excellent accommodation for the ever-increasing number of local passengers, the new terminal's facilities have been offered to other transportation companies in a plan to make it a central transfer point.

Already, the Canadian Pacific Railway

SYMBOL OF PROGRESS

Kitchener P.U.C. Opens New Transit Terminal and Administration Building

is using the building and parking area. The C.P.R. operates the Grand River Railway, as well as a bus line serving Centreville, Freeport, Preston and Galt.

Praise Architect

During the official opening ceremonies, held in the auditorium of the new building, Chairman Ivan Shantz, Kitchener P.U.C., praised the work of A. W. Bromley, Chief Engineer of the local commission, who designed the terminal. Mr. Shantz also commended the P.U.C. construction staff who, together with subcontractors responsible for the specialized work, carried out the construction of the new building.

Lauds Desire for Service

Congratulations were extended to the Kitchener Commission by officials of other transit systems, including P. A. S. Todd, General Manager of the Hamilton Street Railway System, and H. E. King, Director of Personnel for the Toronto Transportation Commission. Mr. Todd and Mr. King were also speaking in their capacity as President and Secretary of the Canadian Transit Association.

Mr. Todd said the new terminal indicated a desire to render the best service to the public. Public transportation systems, he pointed out, had difficult competition to overcome, and a building of this type would, he felt, be instrumental in furthering good public relations on behalf of the industry.

Mr. S. E. Preston, Kitchener P.U.C. General Manager, also spoke at the opening ceremonies and thanked the Commission for the new facilities on behalf of the staff and the public. He said the new building evidenced the abiding faith that the Commissioners have in the future of this growing community.

Benefit to Waterloo

Further words of praise were voiced by Mayor Victor Bauman, Waterloo, who pointed out that expansion in that municipality was due, in a large measure, to the excellent transportation system operated by the Kitchener P.U.C.

A. W. Bromley, Chief Engineer, extolled the vision of the local commission in undertaking construction of the terminal.

The greatest compliment to the con-



H. E. KING, Director of Personnel of the Toronto Transportation Commission, explains a point to an attentive audience. Left to right, seated—H. J. Graber, G. W. Gordon and A. J. Cundick, Kitchener P.U.C. Commissioners. Standing—W. D. Thompson, General Manager, Grand River Railway, and P. A. S. Todd, General Manager of the Hamilton Street Railway (right).



JUSTIFIABLY PROUD of the new transit terminal, A. W. Bromley, left, Kitchener P.U.C. Chief Engineer, and S. E. Preston, centre, General Manager, discuss plans for the opening ceremonies with Transportation Inspector James Beith. Mr. Bromley designed the new building.

struction and planning team would be the continued use and appreciation of the building's fine appointments by the travelling public, he stated.

Construction Details

Located at the east end of the city, the new brick terminal embodies a two-storey centre section, and two wings consisting of main and lower floors only. Provision has been made in the design to allow later additions to both wings.

The second floor of the building's central section is used entirely by the operating staff. It contains a spacious rest and recreation room, a 95-unit locker room, as well as shower and washroom facilities.

The main floor of this central section includes a general waiting room, ticket office and general administration offices.

A modern restaurant and snack bar, capable of serving approximately 80 customers at one time, is located in the east wing on the main floor.

The greater part of the west wing houses the local Commission's frequency standardization staff. This section also includes accommodation for the restaurant manager.

Kitchener Standardization

Carrying out its own standardization within the limits of the municipality, Kitchener P.U.C. has changed over approximately 300 of its customers to 60-cycle power, and plans to have approximately 3,000 customers using the higher frequency by the end of 1952.

On the lower floor of the building, the catering company will operate two other dining rooms, including the "Philip Room", which will seat approximately 60 diners, and the "Berkeley Auditorium" which will accommodate 300 or more patrons.

Tastefully decorated throughout in pas-

(Continued on page 23)



"OPEN HOUSE" was a pleasant feature of the inaugural ceremonies, and Kitchener citizens took full advantage of the offer to inspect the modern facilities of their new terminal. Above, Grace Martz and Donna Freeman, Kitchener P.U.C. Staff members, greet Chairman Ivan Shantz.



HEAD TABLE guests at the luncheon prior to the opening of Kitchener's new transit terminal and administration building. Left to right—Mayor Victor Bauman, Waterloo; A. J. Cundick and H. J. Graber, Kitchener P.U.C. Commissioners; Dr. S. F. Leavine, M.P.P. for Waterloo North; Chairman Ivan Shantz, and General Manager S. E. Preston, Kitchener P.U.C.; P. A. S. Todd, General Manager, Hamilton Street Railway; G. W. Gordon, Commissioner and A. W. Bromley, Chief Engineer, Kitchener PUC.

Maybe You'll Laugh Too!



A man went to a mental specialist.

"What seems to be the trouble?" asked the doctor.

The patient replied by vigorously brushing imaginary things off his arm, explaining, "See? I have dragons on my sleeve."

Backing away, the specialist screamed "Well, you don't have to brush them off onto me!"

* * *

She: "Did anyone ever tell you how wonderful you are?"
He: "Don't believe so."
She: "Then where'd you get the idea?"

* * *

Waiter: Yes, sir, we're very up to date. Everything here is cooked by electricity.

Diner: Then I wonder if you'd mind giving this steak another shock.

* * *

When I was young I used to think money was the most important thing in the world. Now that I'm old I know that it is.

* * *

Paying no attention to the red traffic light, the whizzing cars, or the policeman's outraged whistle, the little old lady marched across the street. Brakes squealed, horns blasted, and the cop strode angrily up to her. "Say, lady, didn't you see my hand raised? Don't you know what that means?"

"I haven't been teaching school for the past 25 years without knowing what that means," the lady replied snappishly.

* * *

The Member of Parliament's wife sat up in bed, a startled look on her face. "Henry," she whispered, "There's a robber in the house." "Impossible," murmured her husband, sleepily. "In the Senate, yes; but in the House, never!"

* * *

He: "Are you trying to make a monkey out of me?"

She: "Why should I take the credit?"

* * *

Revenge is a delicacy which should be served cold.—Bismarck.

"If you kiss me again, I shall tell Father."

"That's an old tale. Anyhow, it's worth it," said the young man as he kissed her.

She sprang to her feet and left the room.

"Dad," she said softly to her parent when she got outside, "John's in the next room and wants to see your new gun."

"All right, I'll show it to him," and two minutes later Father appeared in the doorway, shotgun in hand. There was a crash of breaking glass as John dived through the window.

* * *

A good comedian is worth his wit in gold.



—Reprinted from Cosmopolitan.



Honor Veteran Hydro Commissioner

JASON SHERK, Chairman of the Humberstone Hydro-Electric Commission and a member of that commission from its inception in 1923, was recently honored at a presentation ceremony. Humberstone Hydro has been merged with Port Colborne Hydro-Electric Commission. The presentation took place prior to official dissolution of the Humberstone utility.

In presenting an armchair and foot stool, on behalf of the commission, and a smoking stand, on behalf of the employees, Reeve J. C. Kaiser said they were honoring a man who had made a great contribution to the progress of his municipality. Recalling that Mr. Sherk had presided as chairman for a considerable portion of his 28 years of service, Reeve Kaiser said he had been active in promoting the growth and use of Hydro in the village.

Replying to this and other tributes, Mr. Sherk recalled many pleasant associations during his service with the local commission. Referring to the progress of the commission, Mr. Sherk eulogized the work of the late Roy Sloat, a Hydro foreman who, Mr. Sherk stated, had played a valuable role in helping to build Humberstone's Hydro system. Short speeches were also made at the ceremony by W. L. Near, Commissioner for 16 years; Commissioner Ernest H. Barrick; Howard Naish, William G. Reeb and H. R. Appleyard — all former members; Ben Forhan, Hydro Auditor; Miss Edna Goss, Commission Secretary; Mrs. Madelon Grundy, Village Clerk and former Secretary; George Varmeshon, William Haslon and Joseph Ayotte, Commission employees.

STARTS 26TH TERM

Gordon S. Matthews has been re-elected Chairman of Peterboro Utilities Commission for the 26th consecutive year.

Every year since 1926, when he first became a member of the commission, Mr. Matthews has been re-elected by acclamation. In 1938 and 1939 he served as President of the O.M.E.A.

Mr. Matthews is a Past President of both the local Y.M.C.A. and the Peterboro Rotary Club. His father, T. Frank Matthews, was Chairman of the Peterboro Commission for 16 years, until 1919. Mr. Matthews is married and has three sons.

STRIKE CUTS POWER

A large section of Mexico City which has a population of about 3,000,000 was left without electric power recently during an electricians' strike. An estimated 6,000 workers were involved in the walkout.

NO INCREASE IN RATES

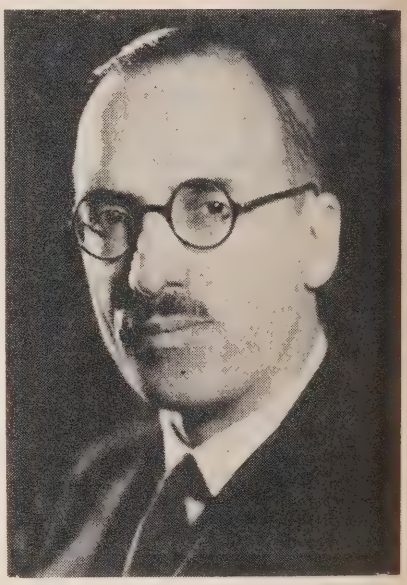
Customers of Ottawa Hydro-Electric Commission were assured recently that there would be no increase in rates during 1952.

In presenting a summary of Ottawa Commission operations and plans, Chairman Frank Plant said construction of a $300,000 central substation, with part of its wiring underground, would be one of the major projects during the present year. The 20,000-KVA plant will replace the present Laurier Avenue substation.

ANNUAL CONVENTION

Over 1,000 delegates are expected to register at the forthcoming 43rd joint convention of the Ontario Municipal Electric Association and the Association of Municipal Electric Utilities, to be held at the Royal York Hotel, Toronto, on February 25, 26, 27.

Addresses Engineers



SIR VINCENT DE FERRANTI

SIR VINCENT DE FERRANTI, M.C., Chairman of the Board of Ferranti Ltd., Hollinwood, Lancashire, England, who addressed the annual meeting of the Ontario Association of Professional Engineers in Toronto on January 26.

More than 1,000 professional engineers from various parts of the province attended the annual meeting at which W. H. M. Laughlin, P. Eng., Toronto, retiring president, was chairman. O. D. Johnston, P. Eng., Toronto, is President-Elect of the association.

Prominent world figure, Sir Vincent is Chairman of the International Executive Committee of the World Power Conference; Chairman of the British National Committee of the World Power Conference, and Past President of the Institution of Electrical Engineers (England), founded in 1871 and one of the world's oldest electrical engineering organizations.

Hamilton's Man of the Year



H. P. FRID

HERBERT P. FRID, Vice-Chairman of Hamilton Hydro-Electric Commission, was recently named "outstanding Hamilton citizen during 1951" by the Advertising and Sales Club of that city.

President of a well-known Hamilton engineering and construction firm, Mr. Frid has been a member of the Hamilton Commission for 15 years, and last year served as Chairman.

A member of the board of Hamilton College, Mr. Frid was a committee head during the fund-raising campaign to establish a college in Hamilton. A member also of the board of the Hamilton Health Association, he has been chairman of its building committee. He is a member of several other clubs and associations.

Born in Hamilton, Mr. Frid was educated at the old Collegiate Institute and at the University of Toronto, where he earned a B.A.S. degree in 1914.

During World War I he served overseas, retiring with the rank of Major. Mr. Frid is married and has three sons.

In announcing the decision of the board of judges that "Hub" Frid was to be the 13th recipient of the distinguished citizenship award, Rev. F. C. Mueller said: "It is next to impossible to enumerate all his contributions to the city."

Carl E. Schwenger

ASSOCIATED with the Toronto Hydro-Electric System for over 41 years, Carl E. Schwenger, Chief Engineer, died at his home in Toronto on January 14.

Mr. Schwenger was a leading authority on electrical distribution, and played an invaluable part in the growth of what is now regarded as the world's largest municipally-owned electrical distribution system.

Following graduation in electrical engineering from the University of Toronto, Mr. Schwenger was first associated with the Dominion Power and Transmission Company, and the Canadian Westinghouse Company in Hamilton.

He left the latter company in 1910 to join Toronto Hydro as Equipment Inspector and Draughtsman. In 1912, he became Assistant to the Superintendent of the Underground Department, and in 1913 was appointed head of the Distribution Department.

Further appointments to Assistant Chief Engineer in 1946, and finally Chief Engineer in 1951, climaxed his long and faithful record of service with the Toronto system.

Mr. Schwenger was credited with several electrical inventions and the author of numerous technical articles.

His keen interest in the field of engineering was evidenced by his active membership in various associations. He was President of the A.M.E.U. in 1932, and held the Presidency of the Toronto Electric Club in 1944-1945. He was a member of the Association of Professional Engineers, and was Chairman and member of numerous committees in the Canadian Standards Association.



C. E. SCHWENGER

A sincere tribute was paid to Mr. Schwenger when the following resolution was passed at the January 17 meeting of the Toronto Electric Commissioners:

"At their first meeting following his demise, the Toronto Electric Commissioners record their appreciation of the long and distinguished services of Mr. Carl Schwenger, Chief Engineer, and further record their keen sense of loss on the passing of a highly-esteemed executive officer and faithful fellow-labourer, and respectfully tender to his sorrowing widow and family an expression of heartfelt sympathy in their bereavement."

A YEAR IN REVIEW

(Continued from page 7)

its immediate requirements or out of line with its revenue earning capacity. With increasing reserves and sinking fund, Ontario Hydro is in a favorable position to undertake new major developments and system expansions which might otherwise impose a heavy burden.

Pacing Ontario's Growth

One of the features of Ontario's growth has been the tremendous increase in manufacturing with its very favorable effect upon employment. In 1945 the value of products manufactured in this Province in current dollars was 3,465,069,000. In 1950, the estimated value was $7,000,000,000. For 1951, it is expected to be in the neighborhood of $9,000,000,000.

The value of agricultural products, too, has very substantially increased. It was $502,831,000 in 1945 and it had risen to $1,126,321,000 in 1950. During 1951, Ontario's farm output reached a record total of $1,274,357,000.

At November 30, 1951, there were 21,169 employees on Ontario Hydro pay rolls, while an additional 6,001 were employed by principal contractors on Hydro projects.

Electricity is the basic factor underlying all increasing production and prosperity. Ontario Hydro's dependable peak capacity has increased from 2,597,185 horsepower in 1945 to 3,943,029 horsepower or 51.9 percent at the end of 1951.

Confident of public support and co operation, the Commission will continue to extend its activities and broaden its horizons in the interest of every class of existing and potential electrical customer in the province.

Honor Retiring Hydro Officials

THREE prominent municipal Hydro officials retired recently and were honored with presentations on behalf of fellow-commissioners and staff members.

Harold G. Foote, a member of Port Colborne Hydro-Electric Commission for 22 years, was presented with a handsome table radio on his retirement. Mr. Foote was Chairman of the Port Colborne Commission for eight years. The presentation was made by A. E. Jordan, Secretary of the Commission.

Alex Farquharson, Manager of Brockville Public Utilities Commission, retired recently and was given a smoking stand and pipe by members of the staff. B. C. Serviss thanked Mr. Farquharson for his continued interest in the staff's welfare and kindly dealings with them, and expressed the hope that he and Mrs. Farquharson would have an enjoyable trip to Scotland this summer. Miss Mary McGrory made the presentation.

At Hensall, Superintendent John Passmore of Hensall Public Utilities Commission retired after 35 years' service. A presentation was made by Walter Spencer on behalf of the staff. James Clark, also of Hensall, succeeds Mr. Passmore as Superintendent.

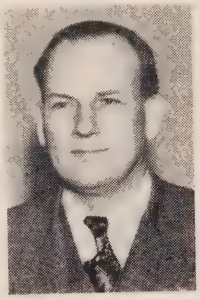
ACCLAMATION

Chairman Albert Rahn of Neustadt Hydro-Electric Commission was recently re-elected to that commission by acclamation. During his 27 years on the Neustadt Commission, Mr. Rahn has been opposed only once on nomination day.

Elected Council Members

NO less than three members of the 1952 council of the Association of Professional Engineers of Ontario are connected with Ontario Hydro. They are Robert C. McMordie, Building Engineer; Alfred W. Murdock, Assistant Manager of Personnel, and John R. Montague, Director of Engineering.

Robert C. McMordie enters his second year as Civil branch Councillor. A graduate in Civil Engineering of the University of Toronto, he also holds the professional degree of C.E. granted by the same University. During 1951 he was active on several of the Association's committees, including the Insurance Committee, of which he was Chairman.



R. C. McMordie

Alfred W. Murdock is an elected Electrical branch Councillor now entering his second year on Council. A native of Nova Scotia, he first attended Mount Allison University, graduating with the B.A. degree. Later he attended McGill University from which he received his Science degree in Electrical Engineering. Following active service in World War I he joined the Municipal Engineering Department of the Commission. Since 1947 he has held the post of Assistant Manager of Personnel.



A. W. Murdock

J. R. Montague is an elected Mechanical and Industrial branch Councillor for his third term. A graduate of the University of Toronto, he also obtained the professional degree of C.E. from the same University. In 1922 he joined the staff of the Commission and is today its Director of Engineering. Despite the heavy demands of his Hydro responsibilties, Mr. Montague took an active part in five Committees of the Association, including the Executive, during 1951.



J. R. Montague

CHARTER COMMISSIONER PASSES

ANDREW M. MacPHAIL, a member of the Uxbridge Public Utilities Commission from its inauguration in 1922 until his retirement in 1946, died at his home there recently.

"Andy", as he was known to his many friends, served Uxbridge faithfully in many capacities. He was Chairman of the Commission for 22 years; Mayor in 1919 and 1920; Past Master and Treasurer of Zeredatha Lodge 220 A.F. & A.M.; an Elder of Chalmers Presbyterian Church and a member of the choir for many years. He enjoyed singing and gave his services freely to local concerts, garden parties, etc. A keen bowler, he was well known at tournaments where his genial disposition made him a general favorite.

Bouquet for Ottawa Hydro

IT is always a pleasure for the people of Ottawa to have a report from Ottawa Hydro, because invariably it arouses in them pride of ownership or enhances their pride lingering from previous statements.

Mr. Plant, the Hydro Commission's competent chairman, twice a year takes council into his full confidence and gives controllers and aldermen a glimpse at the books. This year he let them see a surplus that will pass $900,000; an expenditure on capital account of $1,680,000 in 1951 and 1952; an increase of 2,275 in Hydro customers this year, bringing their number to 60,174; new street lights being installed at the rate of 100 per month; payment to the city this year of $190,000 in taxes; paying $465,300 on the purchase price of Ottawa Light, Heat & Power.

This is a remarkable achievement, and nobody would deny Mr. Plant a large share of the credit for it. And all has been done on rates set in 1931. — *Ottawa Evening Journal.*

Classified Ads

FOR SALE

One—1200 amp, 7500 volt 3 pole indoor, manually operated, oil circuit breaker, type BH Westinghouse, serial #806189 S034-C-494—supplied with both 25 and 60 cycle coils. This breaker has never been used and can be bought for $1,200.00. Inquiries should be forwarded to—**Wallaceburg H.E.C., c/o A. D. Stewart, Manager, Wallaceburg, Ontario.**

TARRED AND WEATHERED

(Continued from page 14)

cleanliness and a surface that can be painted are not the chief factors for consideration, nothing has yet been found to take the place of creosote as a reliable preservative.

Many brilliant achievements, however, have already been recorded to the credit of Hydro's Research Division. It is pointed out that since 1928 the Hydro Laboratory has been engaged in investigating preservative treatments for poles. It lays claim to developing the sand-creosote collar for the ground-line treatment of standing cedar poles erected before the butt treatment was a common practice.

Outside of the Government and the creosoting companies, Ontario Hydro is the only organization in Canada carrying out systematic research in the field of timber preservatives. Will the Hydro Laboratory be able to cry "Eureka" over the discovery of a new process, which will ensure all the protection afforded by creosote treatments, and at the same time provide the ideally clean pole? Only time will tell.

SYMBOL OF PROGRESS

(Continued from page 18)

tel shades, and also featuring colored tile and veneer finishes, the new building is air-conditioned and oil-heated.

It now takes its place among Kitchener's fine public buildings, and, in the words of ex-Mayor S. F. Leavine, who cut the tape and officially opened the building, "it stands as an additional symbol of progress for Ontario's fifth, and Canada's tenth industrial city".

LIGHTING PROGRAM

Ottawa Hydro-Electric Commission plans to install about 1,00 new street lights throughout the city.

Cost will be about $140,000. If the present rates continue, the city will pay $35,000 annually for this service, including power, maintenance, ordinary breakage and carrying charges.

The commission has undertaken to supply each alderman with a map of his ward, showing existing lights and circuits. On this he will indicate the points where new lights are required in order of their urgency, and the commission will base its program on each alderman's votes.

Stewart Heads League



RETIRING PRESIDENT A. V. ARMSTRONG, RIGHT, CONGRATULATES HIS SUCCESSOR.

A. W. J. Stewart, Appliance Manager of the Toronto Hydro-Electric System, was elected President of the Electric Service League of Ontario at the League's annual meeting. Formerly senior Vice President of the provincial group representing all branches of the electrical industry, Mr. Stewart succeeds A. V. Armstrong of Amalgamated Electric Corporation Limited.

G. W. Patterson of Patterson Electric (Ontario) Limited was elected First Vice-President succeeding Mr. Stewart, and F. R. Jeffrey, Sales Engineer of Crouse-Hinds Company of Canada Limited was named Second Vice-President. John F. Mowat was re-appointed Secretary-Treasurer of the League.

Reports presented to the meeting, attended by representatives of about 70 electrical companies and other industrial groups, revealed that Ontario holds a pre eminent position among the areas in which home owners enjoy the advantages of adequate home wiring. The League reported that 9,469 homes were certified during 1951 or are pending certification as meeting the Red Seal standard of adequate wiring recognized by the electrical industry as the minimum required for modern electrical living.

The figure brings the Ontario total to 49,636 certified adequately-wired homes in Ontario (including those pending certification), since the League's adequate wiring program was inaugurated in To ronto in 1923. Since that time electric service leagues have spread across the U.S.A. and Canada.

Rate Increase

WINDSOR Utilities Commission has announced an increase in Hydro rates effective January 1. This city's electrical rates, which have been reduced four times since 1939, have now been increased as follows: domestic, 10.1 percent; commercial, 11.2 percent; industrial, 15.2 percent; and flat rate water heaters, 15.8 percent.

Higher costs of operation, and the $750,000 frequency standardization program, are mainly responsible for the rise in rates, according to J. Clark Keith, General Manager of the commission.



Photo-news

Pupils Visit Niagara— A group of 18 senior girl students from Loretto High School, Sault Ste. Marie, Mich., and two from Ottawa, headed by Mother St. William of Sault Ste. Marie, Mich., and Mother Chabanel of Loretto Academy, Niagara Falls, Ontario, and accompanied by seven other Mothers of the Loretto Order, recently toured Ontario Hydro's Sir Adam Beck-Niagara No. 2 power project, now under construction at Niagara Falls. They were also shown points of scenic and historical interest. Still wearing rubber raincoats, the group posed for the photographer after visiting the scenic tunnels behind the Horseshoe Falls at Table Rock, through the courtesy of the Niagara Parks Commission.



Hydro Clinic— A few weeks ago Mrs. William Carbray, whose husband, Gunner Carbray, is serving with the Royal Canadian Horse Artillery in Korea, received a letter from another friend in that war-torn land telling of the shortage of blood plasma and that her husband and his friends were making blood donations within the sound of artillery fire. Mrs. Carbray, a member of the staff of the Frequency Standardization Division at the A. W. Manby Transformer Station and Service Centre, decided to do something about it. She asked her fellow-employees to give blood and very soon had 125 donors signed up to make the trip into the city to the Red Cross clinic. But, this brought up the question of transportation. She took her problem to Personnel Officer Harold Coo who enlisted the aid of the Ontario Hydro-Electric Club through 1st Vice-President E. N. Hallman. In addition to canvassing and posting notices, the Hydro Club arranged for a Red Cross mobile unit to hold a one-day clinic at the station. To Marian Carbray's surprise and delight, her suggestion — so efficiently promoted by Hydro Club members — became a successful reality when some 300 Hydro and Canadian Comstock employees visited the clinic and gave their blood. One of the first donors was Mrs. Carbray herself shown in the accompanying photograph with Jessie Robertson.

Greetings— Co-operating with Ontario Hydro in supplying 60-cycle power to its industrial customers in advance of regular frequency standardization operations in that municipality, Stratford P.U.C. built a $75,000 substation which was officially opened recently. The new plant will help also to relieve the load on the city's existing substation. Guy C. Parker, Consumer Service Engineer, West Central Region, and A. B. Manson, General Manager of the Stratford Commission. who have been friends since their undergraduate days at the University of Toronto over 30 years ago, are shown exchanging greetings following the first "cutover" to the higher frequency for industry.



oto-news

Engineers Honored— Life membership in the Association of Municipal Electrical Utilities reached a total of six recently when wo well-known Ontario engineers were presented with framed scrolls. The two new members are J. Clark Keith, General Manager, Windsor Jtilities Commission and Richard L. Hearn, Hydro's General Manager and Chief Engineer, whose names have been perpetuated in two of the 'ommission's major steam-electric stations. Following the formal presentation, five of the six life members posed for this photo which shows, eft to right, M. J. McHenry, Director of Consumer Service, Ontario Hydro; Mr. Keith and Mr. Hearn, E. V. Buchanan, who recently retired is the active General Manager of London P.U.C., and O. H. Scott, Manager-Secretary, Belleville Utilities Commission. The other member of he sextette, P. B. Yates, retired Manager of St. Catharines P.U.C. and first President of the A.M.E.U., was unable to be present at the ceremony.



CALENDAR FOR 1952

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DECEMBER

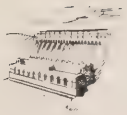
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HYDRO NEWS



Long live the Queen!

VOL. 39 FEBRUARY, 1952 NUMBER 2



HYDRO News



FEBRUARY, 1952

VOLUME 39 NUMBER 2

Published by

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 University Avenue, Toronto

A Beloved Monarch

IN the passing of King George the Sixth, Canada and the other countries of the British Commonwealth, have lost a beloved Monarch and the world has lost a great and good man.

Shortly after his coronation in 1937, the late King told his people, "If, in the coming years, I can show my gratitude in serving you, that is the way above all others that I would choose."

No man can say that he ever faltered or failed to keep that solemn vow. His 15-year reign encompassed six long and dreary years of war, but, during those years he won a unique place in our affection by his unswerving devotion to a supreme duty in the face of extreme difficulty and peril.

As we pause to express our deep sorrow at the death of a gracious Sovereign we are mindful of the heavy burden that has been laid upon the shoulders of his daughter, our new Queen, Elizabeth II. To her, all members of the great imperial family extend their heartfelt sympathy in the loss of a dear father, pledging, at the same time, their love and loyalty in the exacting and exalted position she now occupies.

The deep-rooted allegiance to the Throne and to the young Queen who now wears the Crown was manifested heartily by Canadians a few months ago when she, with her husband, the Duke of Edinburgh, visited this great country to receive our joyful and thunderous acclaim.

Her loyal subjects everywhere unite in the fervent prayer that the beginning of her reign marks the dawning of a new era of prosperity and good will among men of all nations.

Long Live the Queen!

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COVER PHOTO

SINCE the last issue of Hydro News appeared, Canada and the British Commonwealth have lost a dearly beloved King and gained a gracious Queen, Elizabeth II, whose photo by that well-known Canadian portrait photographer, Karsh, graces our front cover this month. We are indebted to the Ontario Department of Travel and Publicity for the very fine winter scene on the back cover which depicts the Oxtongue River in the Muskoka District.

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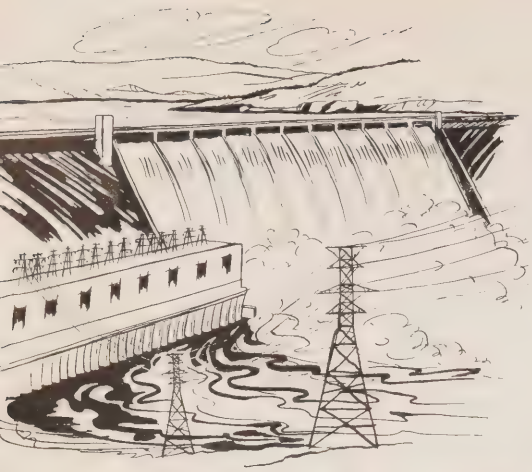


Photo by Karsh.

Our Sovereign Lord, KING GEORGE VI, of Blessed Memory

He is not dead. Such souls forever live
In boundless measure of the love they give.

—Jerome B. Bell.



Security of Service

Must Concentrate on Building Up Power Reserve Rather Than Holding Down Power Costs, Chairman Saunders Tells District 4 O.M.E.A. Delegates

DEMANDS which placed a heavy burden on the Commission's resources in mid-December of 1951, and entailed the cutting of firm power, demonstrated the necessity for power reserves and the growing importance of security of service for Hydro's customers.

These points were emphasized by Ontario Hydro Chairman Robert H. Saunders when he addressed District 4 O.M.E.A. delegates in Toronto recently.

Outlining the critical period which occurred on December 17, 18 and 19, last year, Chairman Saunders told his listeners how the temporary suspension of certain generating facilities, resulting in a loss in dependable peak capacity of some 200,000 kilowatts, had created an emergency which caused grave concern at Ontario Hydro. "In the middle of December," Mr. Saunders said, "we were facing peak loads 11.4 percent higher than the year before for December, and 25.2 percent higher than in 1949."

"That experience in December," he stated, "should teach us all a tremendous lesson for the future. Too long have we concentrated on the cost of power, and holding down the cost of power, and not focussed our attention on the security of service to our people."

15 Percent Reserve

It was important to note, Chairman Saunders continued, that the only time that Hydro actually had reserves of power was between 1930 and 1939. During those years, from time to time, the Commission had a reserve of over 15 percent. Comparing this with today's power situation, the Hydro Chairman pointed out that, even in the face of Hydro's tremendous expansion program, it would not have a reserve of even 10 percent until December, 1954. It was recognized throughout the industry, Mr. Saunders



Chairman Robert H. Saunders of Ontario Hydro was guest speaker at Dist. 4 meeting.

DISTRICT 4 O.M.E.A. officers for 1952. Front left—A. O. Leslie, Past-President; right—W. P. Dale, President. Back Row, left to right—Charles Legg, Director; D. G. Moffitt, Secretary-Treasurer; Loftus Reid and W. E. Wright, Directors. Missing is E. W. Grant, Vice-President.





E. H. BANKS, Comptroller, Ontario Hydro, addressed the District 4 delegates on "Financial Planning in Municipal Systems."



. HAMBLEY, Hydro's Director of Opera- ...or described the important functions of ...he Power Supervisors' office during an ...dress entitled "System Operating".

stated, that there should be a reserve in generating capacity of from 10 to 15 percent.

"We believe," he said, "that somewhere between there is a reasonable reserve, possibly 12 percent, having regard to the fact that now and for some years in the future the great bulk of our power comes and will come from hydraulic plants." This 12 percent reserve target was essential for the continued economic advance of the province, Mr. Saunders pointed out.

The problem of being able to create the necessary reserve in the light of present power demands was dealt with by the Hydro Chairman, who told the delegates that, last fall, the Commission was meeting demands 990,000 horsepower higher than in 1949. "In other words," he said, "we were meeting a two-year increase within just 110,000 horsepower of what the St. Lawrence will give us. Is it any wonder we're pressing for the St. Lawrence and that we will continue to press for this great development?"

Rebate to Municipalities

Recalling that he had urged the municipalities to use their 1951 rebate for rehabilitation of their systems, Mr. Saunders made the welcome announcement that another rebate would be made this year. However, he urged all local commissions to plough this money back into system improvements. "Let us make sure," he said, "that once power has been delivered to you in your own community that your people are protected and the future of your municipality is protected."

"We should be thankful," Mr. Saunders continued, "in this time of increases in every commodity, that the most important commodity in the economic life and the standard of living of this province, is today being sold at a much lower rate than it was prior to the war."

Reviewing the tremendous growth of Hydro in the past decade, Mr. Saunders lauded the efforts of the municipal systems when he paid tribute to "all men and women throughout the province who are ready and willing to give their time and talents in serving Hydro and their fellow citizens."

Opening the business meeting, President A. O. Leslie, after welcoming the delegates, read a resolution, forwarded by District 4 Executive, which expressed deep regret at the passing of the late Albert Jennings, Chairman of East York Hydro, and District 4 Chairman and member for many years.

Similar expressions of sympathy were voiced at the meeting by D. P. Cliff, OMEA President; Chairman Loftus Reid of Toronto Hydro, and M. W. Rodgers, President of the A.M.E.U.

After adoption of the minutes and Treasurer's Report, read by Secretary-



MUNICIPAL EXPANSION problems were no doubt the main topic as this trio pauses between sessions. Left to right—G. F. Skinner and E. S. McNeice, Port Credit, and Chas. Legg, E. York.





W. P. Dale, Brampton, incoming P
presents Past-President A. O. Les
with an electric clock in recognitio
services to District 4 O.M.E.A. LOWE
—Delegates evidently enjoyed

FOUR DELEGATES find many technical points to discuss following the two afternoon addresses. L. to R.—R. L. Barlow, Oakville, Harvey Lyon, G. W. Leaver, and R. H. Philip, Trafalgar Twp.



Treasurer D. G. Moffitt, the District President introduced E. H. Banks, Comptroller, Ontario Hydro, who gave an address on "Municipal Financing". An address was also given by J. M. Hambley, Hydro's Director of Operations, who spoke on system operating.

Election of Officers

After proposing a vote of thanks to the two guest speakers for their addresses on Hydro's operations, Mr. Leslie called upon the nominating committee for their recommendations. The following were elected for 1952: W. P. Dale, Brampton, President; A. O. Leslie, Scarborough, Past-President; E. W. Grant, New Toronto, Vice-President; Secretary-Treasurer, D. G. Moffitt, Toronto Hydro; Directors: W. E. Wright, Toronto Township; Charles Legg, East York Hydro; Loftus Reid, Toronto Hydro.

The meeting was then adjourned, and members later re-assembled for dinner as guests of the Toronto Hydro-Electric System.



This and That

Unique Recollection

Although he was not formally presented when Princess Elizabeth (now Queen Elizabeth II) and the Duke of Edinburgh visited Toronto last fall during their Canadian tour, "Bob" Armstrong, genial member of the Commission's Public Relations photographic staff, has very vivid memories of the occasion —particularly of one incident in which Britain's new Queen and he played stellar roles. The story goes like this: In company with a battery of press photographers, Bob was "covering" the civic reception for the Royal couple at Toronto's City Hall. It was a crisp October evening with more than just a hint of frost in the air. The photographers' fingers grew stiff as they kept a firm grip on their cameras. As the Royal visitors and the official party, escorted by Mayor and Mrs. McCallum, were leaving the city hall at the conclusion of the reception, Bob took up a position near the Cenotaph. Intent on getting one last "close-up" as they passed him, he reached into his pocket for another flashbulb. But, alas, his fingers were numb. The elusive bulb slipped from his hand and rolled on to the carpet a few inches ahead of the young Princess. He did not have time to step out and pick it up, but, with perfect aplomb the Princess raised her foot and deftly rolled it back to the embarrassed photographer who gratefully retrieved it—his face a rather deep shade of pink, we might add!

But Bob was not the only photographer with a red face. It all happened so quickly that not one of the photographers present had time to record this most unusual "human interest" incident. To put it mildly, they were somewhat chagrined at having missed such a golden opportunity.

* * * *

Apology

We take this opportunity of apologizing to Bob for inadvertently failing to credit him with the very fine photograph which appeared on the front cover of the January issue of *Hydro News*. This cover photo depicted the transmission line which was completed recently to serve Manitoulin Island customers.

* * * *

Acknowledgment

We wish also to acknowledge receipt of a letter from E. C. Macleod, President of the National Sanitarium Association, in which he states: "The very helpful publicity given to our work of tuberculosis prevention and control at Christmas time in *Hydro News* aided greatly in making our campaign a successful one. On behalf of our Board of Trustees and for myself, I extend to you our sincere thanks."

* * * *

Not an "If" but a "Must"

On the eve of his fourth anniversary as Chairman of Ontario Hydro, Robert H. Saunders took a look at the past, present, and future when addressing the Lions Club of Orillia recently. During the course of his address, Mr. Saunders described the St. Lawrence Development as "Not an 'if project' but a 'must project'." He also made the rather startling disclosure that if power demands over the next four years continued to increase at the same rate as the past four, the actual increase alone by 1956 would exceed Ontario's share in the St. Lawrence project by more than a quarter of a million horsepower and still leave no reserve of power to meet any emergency.

If the U.S. joined with Canada in the development of the Seaway, Mr. Saunders stated, generation and transformation at the site would cost approximately 2.06 mills per kilowatthour or something like 3.01 mills delivered into the system. Under the all-Canadian plan, however, the cost of supplying the electrical energy from this development had been estimated at 2.80 mills per kwhr. for generation and transformation at the site, or 3.75 mills for transmission to Ontario distribution centres. He said the annual cost for St. Lawrence power delivered into the system, therefore, would be either $18,060,000 or $23,625,000 depending upon which scheme was eventually authorized. Under the all-Canadian Seaway plan the Hydro Chairman said that the difference in cost between steam-generated and St. Lawrence power would mean a saving to the people of Ontario of some $22,050,000 per year, and a comparable saving to the people of New York State.



"I CAN'T UNDERSTAND IT -- THE SALESMAN SAID JUST TO PLUG IT IN THE WALL ANYWHERE."

* * * *

Red Cross Campaign

We have received an announcement from Leslie C. Powell, National Director of Public Relations, that the Canadian Red Cross Society will inaugurate its annual drive for funds during the month of March this year. The 1952 objective is $5,222,000, an increase of $222,000 over last year, but, the absolute minimum required to carry on the essential services of the Society.

* * * *

Alternative

A hobby is something you go crazy over to keep from going crazy over things in general. (Author unknown)

IMPROVED POWER SITUATION

CRITICAL SHORTAGE OF DECEMBER, 1951 HAS EASED, W. ROSS STRIKE TELLS DISTRICT 8 O.M.E.A. MEMBERS



DISTRICT 8 delegates re-elected the entire 1951 executive as officers for 1952. Officers include, l. to r., J. Clark Keith, Windsor; Ralph Burr, Point Edward; Gordon H. Fuller, Windsor; Dennis Herring, Sarnia; W. P. Bolton, Windsor, and S. G. Thomson, Chatham.

"I AM pleased to be able to tell you that the critical power situation which occurred in mid-December last year has eased and we are now in a better position than we were at that time." This announcement was made by W. Ross Strike, Second Vice-Chairman of Ontario Hydro during a brief luncheon address at the annual meeting of District 8, O.M.E.A., held at Windsor February 8.

During his remarks, Mr. Strike also assured delegates of Ontario Hydro's continuing desire to assist municipal commissioners with their problems.

"The door is always open to you at 620 University Avenue," he told his audience.

Re-elect Executive

Highlight of the meeting was the enthusiastic re-election of the 1951 executive for the ensuing year. Thus, the 1952 officers are as follows: President, Gordon H. Fuller, Windsor; Vice-President, Dennis Herring, Sarnia; and Secretary-Treasurer, J. Clark Keith, Windsor. Directors re-elected were Warren P. Bolton, Windsor; Ralph Burr and S. G. Thomson, Chatham. In addition to the re-instatement of the officers, delegates discussed three resolutions during the afternoon business period.

Members tabled a resolution from Amherstburg Public Utilities urging that a special rate be given to public parks and stadia which use floodlighting for youth activities on a non-profit basis. The question, it was pointed out, would be considered by the parent body at the 1952 convention.

Second resolution was introduced by Dennis Herring, Sarnia, who urged that municipal commissioners be given the power to name a replacement for a seat on a commission which becomes vacant rather than the municipal council which now has that power. This matter was also left to the provincial organization.

Third resolution was one drafted by Warren P. Bolton who pointed out that a utility commission and a municipal council may agree on an amount which the commission could pay to the corporation in lieu of taxes. He urged that the Hydro-Electric Power Commission confer with Ontario Department of Municipal Affairs and endeavor to reach a basis of payment which might permit a uniform type of agreement equitable to both parties within the financial resources of a commission. This, as desired, was also deferred to the O.M.E.A. annual meeting.

Fellowship at Luncheon

Warm fellowship was the keynote at the noon luncheon when Dr. H. M. Paulin, St. Andrew's Presbyterian Church, Windsor, was guest speaker. Dr. Paulin spoke with humor and feeling on the life of the Scottish poet, Robert Burns.

Short addresses were also given by

Loftus Reid, Toronto, D. P. Cliff, O.M.E.A. President, and J. Clark Keith, General Manager, Windsor Public Utilities Commission, who introduced Dr. Paulin. W. P. Bolton thanked the guest speaker.

Discusses Power Costs

E. H. Banks, Comptroller, H.E.P.C., opened the business period by giving detailed answers to questions from the floor under the title: "The Relationship of Transmission Lines to Power Costs".

In reply to a question regarding the manner in which the cost of carrying the duplicate 60-cycle facilities was being allocated, Mr. Banks said no distinction was being made between 25- and 60-cycle power as these lines formed part of the transmission pool. However, he pointed out that the capital cost of the lines would be much more than recovered through savings in frequency standardization expenditure which, in turn, accrued to the benefit of the entire 25-cycle division.

In answer to a question whether the J. Clark Keith Steam Station would be used as a bulk supply delivery point, the speaker stated that this would not be the case since, for the time being, steam stations would be used merely to handle system peak demands and, consequently the main flow of power would still be from the east.

Asked to define the term "demand", Mr. Banks said it was the average of the 12 monthly peaks on which interim bills were rendered to municipalities — in other words, each month's continuous 20-minute peaks.

Nerve Centre of Power System

Discussing operating problems, J. M. Hambley, Director of Operations, H.E.P.C., described the function of an Ontario Hydro power supervisor. The power supervisor, whose counterpart in many utilities was called the "system operator" had, through long operating experience and exceptional ability, reached the top of the ladder insofar as "operating" positions were concerned, the speaker pointed out.

"In the hour-by-hour operation of the system," stated Mr. Hambley, "he is supreme in his own field."

Mr. Hambley then described the facil-

(Continued on page 24)

Betterment Program

BLENHEIM Public Utilities Commission's plan to issue debentures worth $30,000, to cover the cost of a two-year betterment scheme, has been approved by Blenheim Town Council and is under consideration by Ontario Hydro.

Hydro Manager W. B. Ford explained to council that the commission could pay off the debenture debt out of current revenue without revising the rates, providing revenues were maintained at their present level.

The plans call for line rebuilding, larger conductors, and more transformers. New street lights will be installed on Talbot Street, one of the town's principal thoroughfares.

Blenheim customers have increased their average consumption by nearly 50 percent since the end of World War II. In 1945, average monthly consumption was 94 kilowatt-hours per domestic customer; by 1951 this had risen to 136 kwhr. per domestic customer.





HYDRO PEOPLE registering by candlelight? Checking registrations is J. Clark Keith, Windsor. Looking on is G. H. Fuller, Windsor. Behind desk are Bill Frequin, Clayton Evans, J. C. Cook, Windsor. (Upper right) Wes. Armour, Windsor; and C. L. McMann, Sarnia P.U.C.



Nearly 85 years of public service are represented by these three jovial gentlemen: (l. to r.) Mayor C. G. Loop, Ed. Sherman, Supt., and W. G. Long of the Kingsville Commission

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Tom Howard of Chatham (extreme right) had an intent audience in J. E. Teckoe, Windsor; M. J. McHenry, H.E.P.C. Toronto; and H. M. Wilson, Windsor, before Dist. 8's luncheon.

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A pipe can really emphasize a point, especially in the hand of E. G. Kerby, Petrolia. Here he has the attention of fellow townsmen, John Burgess and Geo. Howllett (right).

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Talking over O.M.E.A. problems before the luncheon are R. S. Reynolds, Chatham; W. Ross Strike, Hydro's 2nd Vice-Chairman; and Bert Merson, Vice-Chairman of Toronto Hydro.

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Guest speaker, Dr. H. M. Paulin, Windsor, seems to have the attention of (l. to r.) J. C. Montgomery, Cottam; W. P. Bolton, Windsor; and G. L. Mistek, Rodney.

AD ASTRA!

HYDRO's frequency standardization program reached new "heights" recently when seven technicians climbed to the top of the Ambassador Bridge, 512 feet above the Detroit River, to alter the huge electric sign, (inset), in conjunction with changeover operations in the City of Windsor.

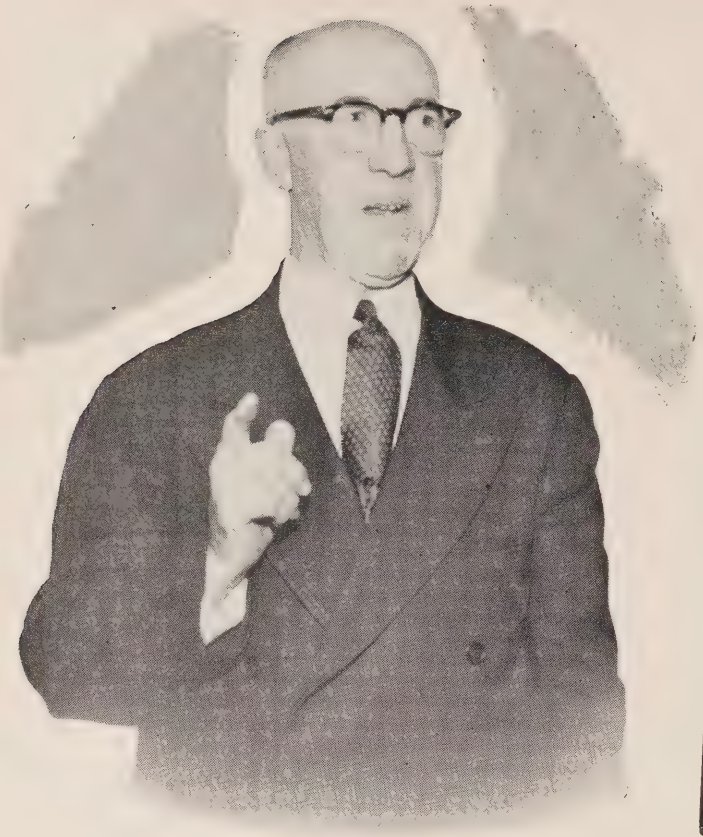
Their task involved removal of sixteen 25-cycle transformers—one for each of the 6-foot high letters of the sign—and replacing them with 60-cycle equipment. Two technicians, Bell Shemerluk, Windsor and Bill West, London, crawled up the sign framework to reach the top row of letters. West is shown on the left during the operation.

This spectacular two-day job, which aroused considerable interest on both sides of the border, ranks statistically merely as the alteration of 16 frequency-sensitive items. It does, however, illustrate the magnitude of the frequency standardization project and the variety of jobs encountered in changing the five million or more pieces of equipment in the 25-cycle "island" of Southern Ontario.



District 5 O.M.E.A. Meeting

A. W. Manby Stresses Importance of Checking Equipment Prior to Frequency Standardization Operations to Ensure Good Service to Customers



MAGISTRATE R. J. Gillen, Brantford, addressed delegates at the evening banquet on "Criminal Cases in the Magistrates' Court."

DR. Fred Barron, Paris, was elected Chairman of District 5 O.M.E.A. during the annual meeting at Brantford on January 30.

Other members of the 1952 executive elected were: Roy Pierson, Brantford Township, and William Watterson, Welland, Vice-Chairmen; W. B. Elliott, St. Catherines; Thomas Barnes, Niagara Falls; J. J. C. Lampman, Fonthill, and Fred Barraclough, Beamsville, Directors.

Many pertinent problems covering a variety of subjects were discussed during the meeting.

One of the highlights of the business session was a lively discussion on a resolution to amend the District 5 Constitution which was presented at the June 1951 meeting held at St. Catharines. The resolution in question was:

"Whereas the O.M.E.A. is constituted to include elected members of local P.U.C.'s;

"And Whereas it is desirable that any expression of opinion which comes from meetings should be exclusively those of the elected representatives or appointed representative;

"And Whereas the election of officers should be the exclusive right of the members of the O.M.E.A.;

"Therefore, be it resolved that the privilege of moving and seconding motions and voting be that of the members of O.M.E.A. except where a poll vote is being taken on a specific subject and then any employee of a local commission possessing proxies may vote on the question for the Commission supplying the proxies, and further that it be left to the discretion of the chair as to who outside of the membership may take part in discussions;

"And further, by the adoption of this motion, all previous motions on the subject are rescinded and that a copy of this motion be sent to the Committee of the O.M.E.A. studying revision of the Constitution."

After a lengthy discussion a vote was

(Continued on page 24)



MEMBERS of the 1952 executive posed for this photo at the conclusion of the business meeting. Front row, left to right: William Watterson, Welland; Dr. Fred Barron, Paris, Chairman; Roy Pierson, Brantford Township. Back row, (r. to l.): W. B. Elliott, St. Catharines; J. J. C. Lampman, Fonthill; Thomas Barnes, Niagara Falls; T. W. Houtby, Welland, (Secretary); F. Barraclough, Beamsville.



OUR PHOTOGRAPHER recorded a variety of expressions on the faces of Delegates K. D. Taylor, West Central Region, H.E.P.C., George Unger, Brantford Twp., Kenneth Baird, Caledonia, and C. A. Veigle, of Paris.



RELAXING during a brief recess are L. L. Bovard, London, and A. R. Parrish, Hamilton, who is offering a "smoke" to Wm. Secord, Brantford.



THOMAS BARNES, Niagara Falls, found an attentive audience in this quartet which includes S. E. Thomson, also Niagara Falls; Dr. Fred Barron, Paris; George Unger, Brantford Twp. and Guy Parker, West Cen. Reg.

BELOW—"I'll take that," Howard Cook tells K.C. Coleman, Ontario Hydro as Dr. Fred Barron and Thomas Barnes also pause to register.



A. W. MANBY, Ontario Hydro's Assistant General Manager—Administration, spoke on the Frequency Standardization program during the meeting. He is shown here with J. A. Williamson, Niagara Falls delegate.



THINGS were "looking up" at this point as these delegates: James Cubitt and George Boucher, both of Paris, and Delhi representatives, W. E. Stetler, C. M. Kramer and E. W. Phillips, guessed height of elevator shaft.





R.
MANAGERS'

ABOVE: GENERAL VIEW OF THE OPENING SESSION AT THE AREA MANAGER'S CONFERENCE, HELD IN TORONTO RECENTLY.

"It's our annual chance to discuss the problems facing all of us."

This statement, by A. W. Manby, Hydro's Assistant General Manager -- Administration, set the theme for the annual conference of Area Managers, held in Toronto recently.

Featuring numerous technical and administrative sessions, the two-day conference included addresses by several Head Office representatives of the Commission as well as discussions on a variety of subjects.

The importance of this annual "round table" was also stressed by Mr. Manby when he told the managers: "You are 'Hydro' to the people in the areas. The Commission is judged by your performance in your area, so we are assembled here to ensure that Ontario Hydro service continues to measure up to its customary high standards."

Under the general chairmanship of H. D. Rothwell, Administrative Assistant — Regions, the first session of the conference was devoted to accounting and consumer service problems.

Improvement of the Uniform System of Accounting was the initial topic at the accounting session, with F. H. Plestch leading the discussion and P. S. Gibbon, Brampton Area Manager, as Chairman.

Various questions were answered without discussion at this session, and W. G. F. Davis, Internal Audit, concluded the session with a talk on cost reduction through work simplification with film.

The Consumer Service session, with W. E. Anderson, New Liskeard Area Manager, in the chair, covered a wide variety of topics including interpretation of summer rates; re-connection charges; meter reading procedures; service deposits; billing; water heater sales; and installation and wiring procedures.



...A.
...ETING

pointed out. "In December, 1951, we had a peak of 3,067,000 kw."

Hydro's General Manager also stressed the fact that, during this six-year period, the Commission had built new generating facilities which brought the dependable peak capacity of all systems up to 2,941,750 kw. in December 1951.—an increase over December, 1945, slightly in excess of 1,000,000 kw. The dependable peak capacity of Ontario Hydro's own generating facilities advanced from 1,[illegible]000 kw. in December, 1945 to 2,238,000 kw. in December, 1951, or almost double that built or acquired between 1906 and 1945.

The increased assets of the Commission, which jumped from $400 million to over $1 billion in six years was another indication of Hydro's tremendous expansion. Rural statistics, Mr. Hearn stated, also revealed the scope of Hydro's expansion program. In 1945, rural customers totalled 156,560, in 1951—318,606. The rural load in 1945, he continued, was 98,889 kilowatts, in comparison with 271,354 kw. in December, 1951.

These figures, Mr. Hearn stated, illustrated the co-operation which existed



R.L. HEARN
General Manager and Chief Engineer



Among the Speakers



JOHN DIBBLEE
Manager of Personnel



DR. OTTO HOLDEN
Assistant General Manager–Engineering



H.D. ROTHWELL
Administrative Assistant–Regions

Discussion on these subjects was led by G. H. Gibson, R. H. McComb, P. S. Gibbon, N. A. Belfrey and C. E. Dillon.

Post-War Progress

Highlights of the remarkable progress of Hydro since the end of World War II, were described during a short luncheon address by Richard L. Hearn, Hydro's General Manager and Chief Engineer.

"In 1945 our primary demand for all systems was 1,600,000 kilowatts," Mr. Hearn



LEFT: Following an interesting address by J. A. Blay, Hydro's Director of Public Relations, the area managers inspected display boards which carried a selection of publicity, advertising and magazine material produced by the Public Relations Division.

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BELOW: Climax of the two-day conference was a conducted tour of Hydro's Richard L. Hearn Generating Station. In this photo, Norm Lewis, left, control room operator, explains his job to K. G. Cowell, Norwich; O. G. Simmons, Tillsonburg; A. S. Robertson, Niagara Reg. Mgr.; O. L. Dubeau, Penetang.

throughout Hydro. "We would like," he said, "to express management's deep appreciation to the men here today for the wonderful job they have done for the people of this province."

The first afternoon session was devoted to general administration. Discussions, under Chairman C. L. Mylks, Brockville, dealt with personnel carriers; office, store and garage equipment; accommodation for stores; trucks and parts; and the function of the area office. The various discussions were led by A. F. Westran, H. C. Fort, F. P. Stubbs, and W. B. Ford. H. D. Rothwell, also led a discussion on communications.

Personnel Problems

In a world where many important technological changes had taken place, there was a definite necessity for an era of social change in the industrial work setting.

This warning was sounded by John Dibblee, Manager of Personnel, Ontario Hydro, in an address urging a closer study of personnel problems as a key to effective management in industry.

Analyzing the qualities of effective leadership, Mr. Dibblee told his audience that there were two kinds of supervisors, the "leader" and the driver."

The driver, he pointed out, operated on authority alone. The fear motive which was instilled by this type of supervision was ineffective in the long run. "Anybody can give an order," Mr. Dibblee said, "but the trick is to give orders so that they will be carried out when backs are turned."

(Continued on page 16)





RIGHT: Another group is caught by the camera as they inspect some of the features of one of the huge turbo-generators at the R. L. Hearn Station. Included are Ralph Fisher, Cobourg, and Vern Coutts, Alliston.



ABOVE: Recess—and a chance to "blueprint" some future operations. Left, D. I. Nattress, Northwestern Region Manager; Right—J. R. Montague, Ontario Hydro's Director of Engineering.

Informal talks between sessions gave many of the managers the opportunity to meet their associates from other areas, and also to discuss their problems with Head Office personnel. The photographer captured some of these discussions in the photos on the right.

1. Included in this group are L. M. Hendrick, Frankford, and A. H. Lloyd, Picton.

2. Phil Wayman, Construction Division, Head Office; Irve Merrick, Georgian Bay; Earl Dillon, North Bay; Ken Hansler, Georgian Bay.

3. Percy Riches, G. D. Gibson, Max. Howat, and Larry Larsen, all of the Eastern Region.

4. A. E. Green, Engineering, Head Office; Morris Anderson and Ted Pietsch, West Central Region; Tom McQuaid, Engineering, Head Office; and C. D. McDonald, Kitchener P.U.C.

5. J. R. Claughton, Ottawa; Vern Coutts, Alliston; Stew Cheney and Perc. Oliver, Personnel, Head Office.











"Participation" involving "a voice in what goes on" was a key to productivity. The slot machine concept of men—wages in, work out—was false.

Research had shown, Mr. Dibblee continued, that brow-beating certainly did not contribute to productivity.

The "leader" who really wanted the best for his group, and who worked on the "quarterback leadership" principle. was the man who got the best results.

"The true task of the leader is the development of enthusiastic teammates out of indifferent wage-earners," Mr. Dibblee stated.

Public Relations

"If organizations enjoy good public relations they have a satisfactory foundation for progress," James A. Blay, Hydro's Director of Public Relations, told the managers in an address dealing with the functions of this comparatively new division of Ontario Hydro.

This fact, he said, was particularly applicable to Hydro, as it was imperative that the public know and appreciate the power situation—especially in view of the ever-increasing inroads on Hydro's power resources.

Explaining the main function of the new division, Mr. Blay gave an interesting description of the methods employed to maintain a constant flow of vital information to appropriate news, radio and other outlets for dissemination to the public.

The speaker also referred to the functions of the field, advertising, photographic and magazine sections and explained how their participation contributed to the advancement of good public relations, both directly and indirectly.

Concluding with a general summary of public relations activities, Mr. Blay emphasized that his division was a "Service Division."

As such, he told his listeners, "We welcome any suggestions or requests from any quarter. Our success depends a great deal on your co-operation. With your help we can continue to further the good relations that exist between the Commission and its customers."

Engineering and Construction

Engineering and construction were also dealt with during the meeting. Such subjects as specifications; use of cyclometer meters; extension of poles on private property; rural extensions; emergency repairs; lightning arresters; installation of disconnecting switches; payment of easements; and rural standard code suggestions, were discussed at the morning session on the second day of the conference. Topics dealt with at the next session included vacations; suggested area office radio equipment; progression procedure for linemen; training plans; truck inspections; installation of signal lights for trucks; and load surveys.

Following the luncheon recess, the meeting heard a short address by Dr. Otto Holden, Hydro's Assistant General Manager—Engineering, who paid tribute to the area representatives for their contribution in keeping pace with local demands which were placing "a heavy burden on the skill and ingenuity of all Hydro engineers."

Dr. Holden assured the managers of the Commission's desire to keep in touch with their problems, and urged them to maintain ever closer liaison with their respective regional offices. A mutual interchange of information, so necessary in Hydro's operations, would thus be effected for the benefit of all, Dr. Holden pointed out.

Following this message, Col. M. H. Vernon, Director of Security, Ontario Hydro, introduced two of his staff who gave some interesting facts and suggestions on various security problems.

As a fitting climax to the conference, the managers were taken on a conducted tour of Hydro's Richard L. Hearn Generating Station.

Honor Veteran Commissioners



HAROLD FOOTE and H. H. Knoll, commissioners at Port Colborne Hydro for a combined total of 41 years, were recently honored for their outstanding service record by members of the local commission. Mr. Foote, who served as a commission member or chairman for a total of 22 years was presented with a handsome easy chair and foot rest. H. H. Knoll, ex-Mayor of Port Colborne and commissioner for 19 years, was the recipient of a prized leather travelling bag. Presentations were made by Commission Chairman Walter J. Smith. Pictured above at the ceremony are Harold Foote (seated), standing left to right, are Dave Thomas, Hydro Superintendent; Commissioner Ernest H. Barrick; H. H. Knoll; Bob Martine, Assistant Secretary; Chairman Walter J. Smith; Mayor G. S. Macdonald and Hydro Secretary Austin Jordan.

THE AMAZING GAME of "NIM"

Ingenious Electronic "Brain" Demonstrated at Professional Engineers' Annual Meeting



CHATTING prior to the annual meeting were, left to right: Oswald D. Johnston, P. Eng., 1952 President of the association; Sir Vincent de Ferranti, M.C., noted British industrialist who was guest speaker, and 1951 Assoc. Pres. W. H. M. Laughlin, P. Eng.

HIGHLIGHTING the annual meeting of the Association of Professional Engineers of Toronto in Toronto was the demonstration of an amazing electronic digital computer which played a game known as "Nim" with human opponents.

The 3½-ton electronic "brain" which was shipped by boat to Canada from England for the professional engineers' meeting was described by Sir Vincent de Ferranti, Chairman of the Board of Ferranti Ltd., Hollinwood, England, guest speaker.

In his address to the 1,000 or more members of the Association in attendance, Sir Vincent, who is also Chairman of the Executive Committee of the World Power Conference, gave a review of electrical development in Britain.

In this connection, he also lauded Ontario Hydro's expansion program to make more power available for the province's growth, and praised the efforts of Chairman Robert H. Saunders and Richard L. Hearn, General Manager and Chief Engineer.

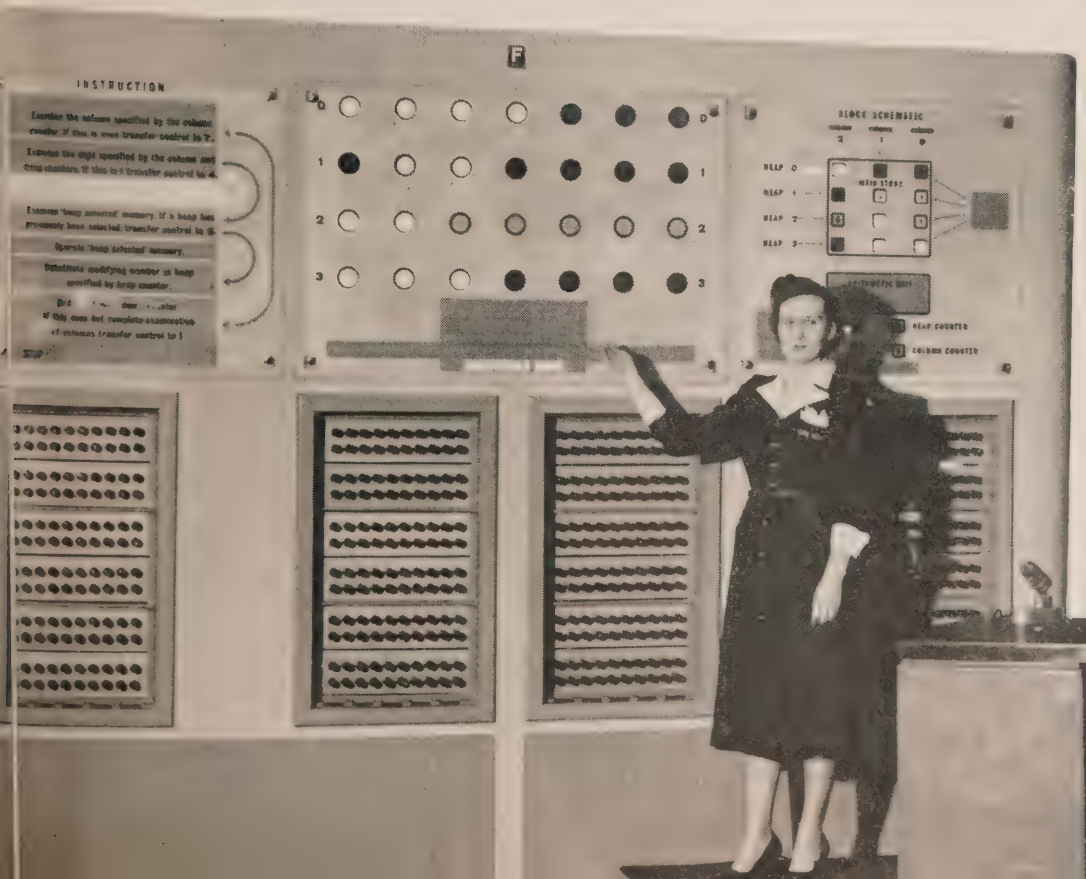
Able Leadership

"Your Hydro-Electric Power Commission, so ably led by Mr. Saunders and Mr. Hearn, is an outstanding example of the active development of a system for the benefit of the people," he stated.

It was interesting to note, he pointed out, that, during 1950 alone, additions to the Commission's installed capacity represented an increase of approximately 19.6 percent compared with the equivalent English increase of 8 percent.

In describing the computer, designed and built by professional engineers in his company, Sir Vincent declared that high-speed computing machines would have a profound effect upon scientific

(Continued on page 23)



ATTRACTIVE Evelyn Long points to the main panel of the digital computer which was shipped to Canada for the meeting. The computer, which contains 480 electronic tubes, plays the ancient game of "Nim" with human opponents and wins.



REMINISCING—and facing the future. These spry new members of Toronto Hydro's 40-year service circle seem to be doing both, assembled here for the annual dinner.

13,000 YEARS' SERVICE

Toronto Hydro's Quarter Century Club Now Boasts Nearly 600 Members

MORE than 450 members of Toronto Hydro-Electric System's Quarter Century Club gathered in the Royal York Hotel recently for their annual dinner and entertainment.

Eighteen were honored this year by admission to the forty-years' service circle, while 22 new members were welcomed into the Quarter Century Club itself.

Speakers at the dinner were asked by Club President George Britton to "keep it short", and Loftus H. Reid, Chairman of the Toronto Commission, did just that. In fact, he spent most of two minutes congratulating H. J. MacTavish on his appointment as General Manager of the Toronto System, and jovially deploring the appearance at the head table of yet another Scot.

In reply, Mr. MacTavish suggested that the Scots present sing "My Wild Irish Rose" in tribute to Mr. Reid, a proud Ulsterman.

Mr. Reid also expressed his satisfaction at seeing 89 retired members of the club present at the dinner. Total strength at the end of last year, he noted, was nearly 600. This does not include nearly 200 retired members.

Vice-Chairman Bert Merson managed to squeeze a lot of good advice into his two minutes. First of all, he stated that the members present could boast a combined total of 13,000 years' service.

Then Mr. Merson spoke in more serious vein on the responsibilities of older members of the Toronto Commission. "You are the people with the vested rights in the Commission, just as people with a lot of money have the financial rights in a corporation.

"Your responsibility, with these changing times, is to keep the more critical public of today satisfied that Toronto Hydro is doing its best.

"Don't boss the younger men — lead them along. They haven't had the opportunity to think things out as you have. You can use your 25 and 40 years' service as good examples. Remember, we in the public service can't afford to let down at any time."

Ending on a "promissory" note, the Commissioner said that the Commission would be particularly happy to see all the Club members again at next year's gathering—its Quarter Century anniversary.

For the first time in many years, E. M. Ashworth, former General Manager, was not seated at the head table. Called on for comment when he was finally discovered quietly eating dinner, Mr. Ashworth said smilingly, "I am at last where I want to be."

New Members

The list of new 25 and 40 year members was read by Leo Simpson, a member of the Quarter Century Club committee, as the Commissioners presented the pins. At the conclusion of the dinner the guests enjoyed a singsong and other entertainment.

Those receiving 40-year service pins



THROUGH THE DOOR to reception room comes Oliver West, with the System since 1911, welcomed by Chairman Loftus H. Reid (r.) and Quarter Century Club President Geo. Britton.



REGISTERING THE GUESTS was the task of George A. Baird. Here he hands tickets to Quarter Century Club members H. G. Calloran and J. E. Hopkins (r). Waiting is Norman Witton.

included: Harry Allgood, Francis R. Ausman, Henry Booth, Thomas Greene, Robert Howat, David E. Irwin, John M. Kerr, John S. McGregor, Richard J. Meeson, Henry Mosey, Conrad A. Olies, Richard Seagrave, Frank Seddon, Arthur M. Smith, William Souter, Oliver J. West, McDonald White and James L. Webb.

Presented with 25-year pins were: Mrs. Edith Blazey, Mrs. Minnie Kay, Miss Lucy J. Stiles, Miss Hazel Urback, Geo. D. Billerman, Benjamin Blake, J. Stephen Bradley, James Bridges, Ellesworth F. Burbank, Frederick Campbell, Samuel Collins, Frank A. Ellis, Albert Green, Alex Harshaw, Harry Hyde, Percy M. Watson, Joseph V. Liddell, George A. Long, William McKnight, Frank F. Moses, Thomas W. Thompson and Bernard VanSchaik.

A WELCOME REST is taken by these lady members: (l. to r.) Mrs. Ada Paradine, Mrs. N. A. Dutton, Mrs. Eliz. Church, Mrs. Minnie Kay, Mrs. Alice Stewart, Miss Vada Phillips.





THEIR FORMER CHIEF, retired General Manager of the Toronto System, E. M. Ashworth, is here congratulated by three other old-timers before the banquet: (l. to r.) Jim Cameron, Robert Howat, and Sam Butler.





OFFICIATING at the Longlac ceremony, Dr. Otto Holden, Assistant General Manager—Engineering, with M. D. Caouette, Theresa Gold Mines, (extreme left); Robert Gordon, Manager, Longlac's Hudson's Bay post, and Archie Harkes, Assistant Manager, Hudson's Bay post and Secretary-Treasurer of Longlac Improvement District, examines lock and key of the original Hudson's Bay post built in 1813. The ancient gun held by Mr. Harkes is a smooth-bore fetlock sold by the H.B. Co., 75 years ago and is owned by a Cree Indian family near Longlac. RIGHT—O. S. Luney left, Manager, Eastern Region, looks pleased as Nurse Mary McEwen plugs in incubator at the Red Cross Outpost Hospital at Whitney after power was switched on in this community. Miss Helen Singer, Eastern Supervisor of Posts, lifts cover of incubator. Whitney hospital handles 60 maternity cases each year.

Photo-news



THESE YOUNG CITIZENS of Britt, left to right, Yvonne Longblade, Coleen Burton, Jean Sabourin, and Janet Fletcher, with Jean Boucher in the back row, display keen interest in electric bulb.

Power for Three More Communities

ONTARIO Hydro has made noteworthy strides since the beginning of 1952 in extending the benefits of Hydro power to several communities throughout the province.

For example, on January 16, Charles E. Crease, Consumer Service Engineer, Georgian Bay Region, threw a switch which brought power to the Village of Britt, an important coal port, as well as commercial fishing and tourist community 50 miles north of Parry Sound.

Then, on January 28, Dr. Otto Holden, Hydro's Assistant General Manager — Engineering, brought power to the far northern community of Longlac, a flourishing lumbering townsite some 200 miles northeast of Port Arthur.

Early in February, O.S. Luney, Manager of Hydro's Eastern Region turned on the power at Whitney on Highway 60 between Huntsville and Pembroke.



— Hamilton Spectator Photo

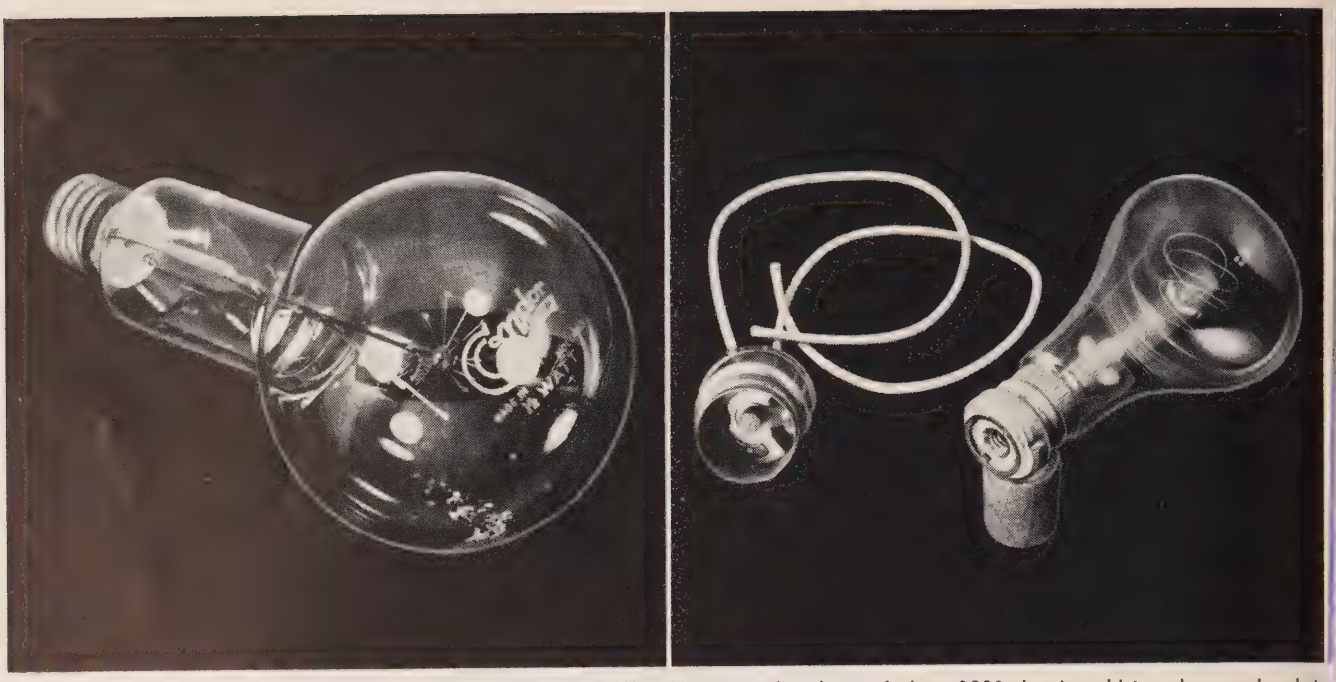
"Citizen-of-the-year" Presentation

LAST month's issue of *Hydro News* contained a story which referred to the announcement that Herbert P. Frid, Vice-Chairman of the Hamilton Hydro Electric, had been chosen "Citizen of the year" in that city. However, there was not time to obtain a photo of the formal presentation to Mr. Frid. *Hydro News* is proud to take this opportunity of mentioning again the important honor which has been conferred on this quiet benefactor of many Hamilton organizations. In the photo on the left, Mr. Frid, in the center, is shown as Mayor Lloyd D. Jackson pinned the small medal emblematic of the title "outstanding Hamilton citizen during 1951" on his coat lapel. Right is Rev. F. C. Mueller, spokesman for the Board of Judges which announced their selection at the "civic night" banquet of the Hamilton Advertising and Sales Club.

Takes Refuge From Flood

AT four a.m. on February 4, residents of Highland Creek a few miles east of Toronto, were forced out of their homes when the stream overflowed its banks. Spread 300 yards wide by the rain of the previous week, the creek threw huge chunks of ice against the doors of the houses which line its banks and went sweeping through the lower floors of the buildings, creating general havoc. While home-owners were evacuating their inundated residences, the little "kitty" in the photo on the right decided to take refuge from the raging torrent on the lower cross-arm of a Scarboro P.U.C. pole.





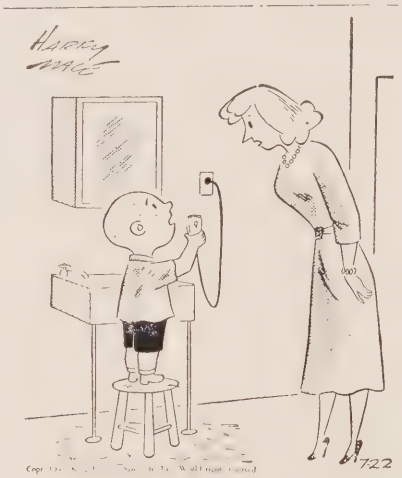
LEFT—Gas-filled tungsten lamp manufactured before 1930. RIGHT—Vacuum carbon lamp of about 1900 showing old type base and socket.

THE STORY OF TWO BULBS

EDITOR'S NOTE — A short time ago, W. B. Ford, Manager of Blenheim P.U.C. sent two old light bulbs and a socket to the Commission's Laboratory in Toronto with a request for information respecting their probable date of manufacture. At Mr. Ford's suggestion, the following short article has been prepared by H. F. Davidson of the Laboratory's Illuminating Section:

THE lamp in the photo on the right, which was discovered in the attic of Blenheim Town Hall, is a vacuum carbon filament lamp and was probably made about 1900. This lamp is of interest because almost every part has been superseded in present day lamps either in material or method of construction. The "Thompson-Houston" base on this lamp was practically discontinued by 1905 due to a decision of the lamp manufacturers to standardize on the Edison screw base as used on present lamps. The filament is a treated carbon filament introduced about 1894 and almost completely replaced with tungsten by about 1908. The carbon filament is attached to the lead wires with carbon paste as the carbon filament would not stand clamping as is done with tungsten filaments.

The lead wires are copper from the base to the stem press where they are welded to platinum wires which pass through the glass stem press to the filament. The platinum has a coefficient of expansion close to that of the glass and this construction was in general use by about 1893. Present lamps use "dumet" wire for the portion passing through the stem press. Dumet wire is composed of a nickel iron core over which is a sheath of brass and a sheath of copper and has a coefficient of expansion very close to that of the glass. The base of the lamp is fastened to the bulb with plaster of paris which was replaced by improved cements prior to 1905.



"It woulda been silly to try it out on my face—there's no hair there!"

"Tipless" Lamp Bulbs

On the end of the bulb is a tip where the exhaust tube was sealed off. Since about 1919 in America and probably prior to this in Europe, lamp bulbs have been tipless. This is done by having the exhaust tube enter the bulb through the stem. The sealed end of the exhaust tube is then covered by the base.

The clearance of this lamp indicates that it has had little use. The filament is still intact and measures 110 watts at 11(volts with a light output of approximately 325 lumens. Present day 100-watt lamp: give 4 to 5 times this amount of light.

The lamp on the left is a Condo lamp, made in Holland and rated at 50(watts, 120 volts. The "½ watt" markin on the bulb means "one-half watt pe candle" which was the old method o specifying the efficiency. This efficienc corresponds to about "20 lumens pe watt" in the present day terms. The lam is not particularly old but was probabl made prior to 1930. It has a G-40 ga filled bulb and a coiled tungsten filamen

GAME OF "NIM"

(Continued from page 17)

work of all kinds. As an example of the speed and accuracy of the computer on display, he said it would add up a column of 500 numbers in the same time that a human being was pronouncing the word "addition".

Tabling of a special report on civil defence prepared by Dean K. F. Tupper, P.Eng., of the engineering faculty of the University of Toronto, created considerable interest. Dean Tupper's report stated that industry and population must be spread out into large numbers of targets so that each one by itself would be insignificant in size.

Among the principal speakers at the convention were the 1952 President of the Association, Oswald D. Johnston, P.Eng., and the retiring President, W. H. M. Laughlin, P.Eng.

Need 1,000 Engineers Annually

Mr. Johnston pointed out the immediate need by Canadian industry for 1,000 professional engineers annually, adding that with the further expansion of defence projects, this figure would be doubled by the fall.

In a summary of the Association's 1951 operations, Mr. Laughlin described the year as one of success and progress. More than 1,200 new members had been added to the Ontario body, largest of its kind in Canada, and applications for membership were coming in from all parts of the Commonwealth, the United States and Asia.

THREE PROJECTS

Tavistock Public Utilities Commission is seeking permission from Ontario Hydro to proceed with three major projects which will cost an estimated $23,950. It is expected that 20-year debentures will be issued for $20,000.

The projects are: frequency standardization, estimated at $8,250; rehabilitation and rebuilding of existing lines on four thoroughfares, $8,500, and installation of water heater control, $7,200.

MANY APPLICATIONS

Recent rural annexations by the City of Galt have already brought over 300 applications for Hydro service.

Most of the applications are from the newly-annexed area in the southwest corner of the city, where the majority of applicants are seeking three-wire service.



RE-UNION AT NIAGARA

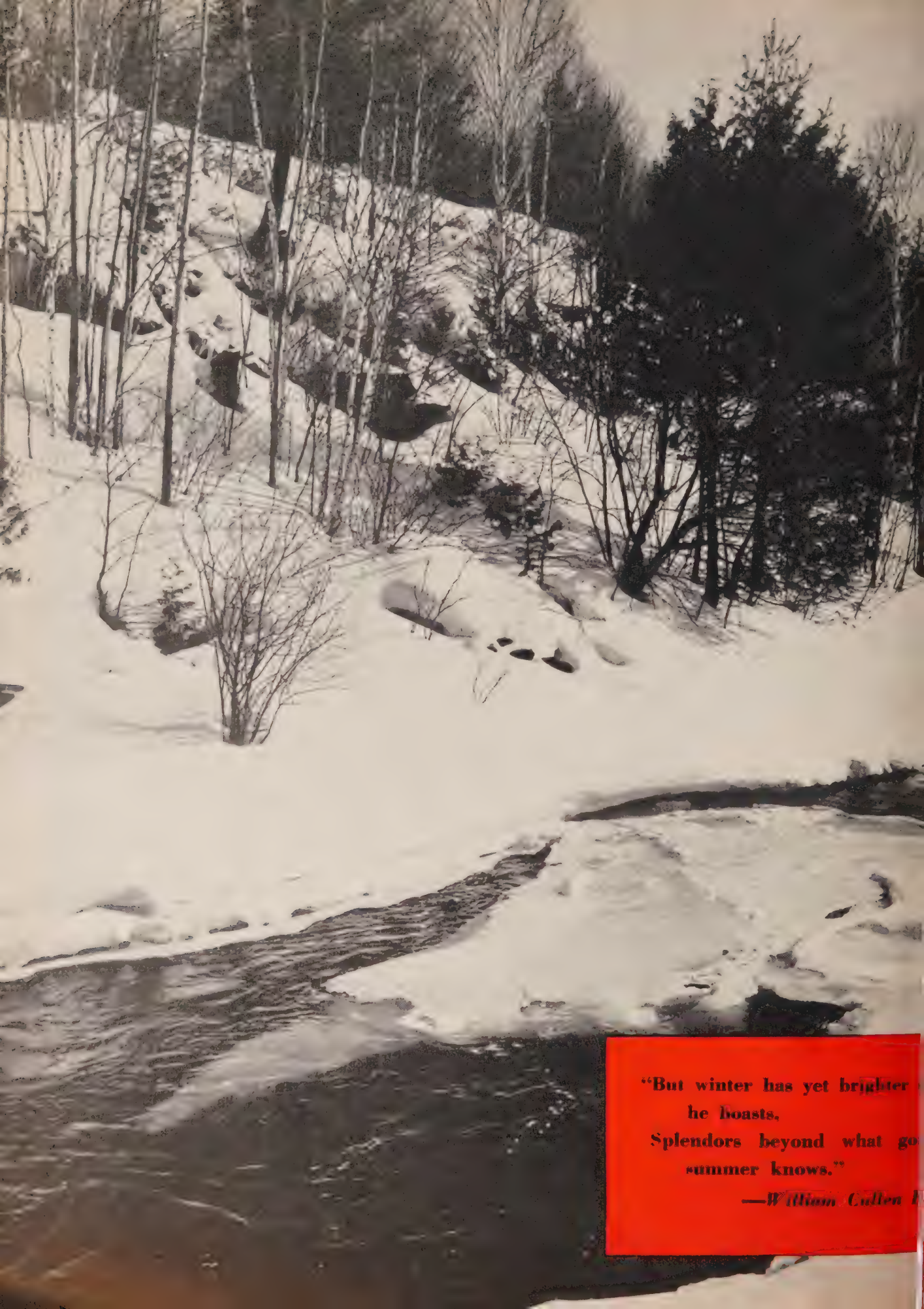
WHEN Sir Victor Warren, M.B.E., C.St.J., T.D., LL.D., Lord Provost of Glasgow, Scotland, visited Niagara Falls recently, the most thrilled and excited person was an Ontario Hydro Security Guard Supervisor, Joe McNeill. For McNeill, the visit marked a pleasant re union with his former commanding officer, and the Lord Mayor of the city in which Joe had once served as police inspector.

McNeill first met Sir Victor when the baronet was Colonel of the British Royal Signals Regiment and Joe was a sergeant in that unit. Later McNeill joined the Glasgow city police force rising to the position of inspector about the time Sir Victor became Lord Provost. He resigned his police post to come to Canada.

Sir Victor, accompanied by Lady Warren and Mr. and Mrs. H. T. Jamieson of Toronto, paid his first visit to Niagara and was impressed with the scenic beauty. A mining engineer by profession, he has been closely identified with hydro-electric projects in Scotland since 1924, and played an important part in the building of numerous tunnels for these developments. Among the notable projects with which he has been associated were the famous Loch Sloy power project; the Fort William development, for which a tunnel 25 miles in length with a 15-foot diameter was built, and the Glen Shirra development.

The distinguished British visitor was shown Ontario Hydro's new Sir Adam Beck-Niagara No. 2 development, now under con struction at Niagara Falls, and also the present Sir Adam Beck-Niagara No. 1 power station at Queenston.

The Lord Provost expressed amazement regarding the vast new power project at Niagara. He said it was "one of the most ambitious undertakings anywhere in the world."



"But winter has yet brighter
he boasts.
Splendors beyond what go
summer knows."
—*William Cullen*



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VOLUME 39 NUMBER 3

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Spring Thoughts

"Spring is in the world,
And all things are made new!"

So wrote Richard Hovey in his poem entitled "Spring" and few are they who disagree.

Spring came a day earlier than usual this year, the earliest since 1897. Between 1898 and 1951, the first day of Spring fell on March 21 and 22. This year, Old Sol entered the sign of Aries on March 20, heralding the Vernal Equinox.

But, whether it was March 20, 21 or 22, was of little concern to most of us. The date did not matter, only the fact that Spring had actually arrived.

At the time of writing the world still seems suspended between the two seasons. True, the snow has virtually disappeared in many parts of Ontario and the brooks have broken the icy bonds of winter, but the fields and the lawns are still clad in sombre robes of brown and grey. The wind often has a briskness to it and the trees are stark skeletons. When a sudden squall brings with it another mantle of white we have moments of despair and uncertainty about Nature's true intent.

But, the rays of the sun are growing warmer with each passing day. Beneath, the seemingly immovable surface of the earth, there are faint stirrings of life as the daffodil and the crocus begin to send up their brave green shoots.

If we listen for a moment we can hear the cheerful chirruping of robins and the raucous greeting of the crow, noisily proclaiming their return.

Spring comes slowly to Ontario—almost imperceptibly, in fact! To fully appreciate the beauty and wonder of this joyous season we must take time from our busy daily schedules to catch each sign as this amazing and ever-new drama gradually unfolds.

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—Photo by Malak, Ottawa.

Sweet ecstasy! At this season of the year young and old alike are off to the sugar bush to sample that typically Canadian product — maple sugar. The satisfied expressions on the faces of these youngsters is proof enough that the fruit of the maple has not lost its flavor.

Impressive and Significant A

AMID hearty applause from over 1,000 delegates attending this year's joint O.M.E.A.-A.M.E.U. convention, Ontario Hydro Chairman Robert H. Saunders announced a total rebate to municipalities in the Southern Ontario and Thunder Bay Systems totalling $2,520,899.

During his full-scale report, Mr. Saunders said that the year 1951 had been "one of impressive and significant achievement," for Hydro.

"Your Ontario Hydro has fulfilled in the past and is fulfilling today the duty of bringing low-cost power in abundance to our people. The fulfilment of this duty has been the greatest single factor in building up this province to the pre-eminent position it now occupies."

At the outset of his address, the Hydro Chairman outlined the industrial growth of Canada in the past 12 years and observed that "this would not have been possible if Ontario Hydro and electrical power producers in other parts of Canada had not kept pace with this tremendous business development."

The Chairman emphasized this point by comparing primary peak demands and the growth of the Commission's dependable peak capacity during this period. Primary peak demands in 1940 totalled 1,864,487 horsepower. In December, 1951, the all-system primary peak demand reached an all-time high of 4,111,294 hp., 65.6 per cent higher than the demand in 1945 at the end of the war. Examining Ontario Hydro's resources, he said the Commission had a dependable peak capacity of 2,116,622 hp. in 1940. In December, 1951, dependable peak capacity totalled 3,943,365 hp. — an increase since the war of 1,346,180 hp. or 51.8 per cent.

Another tangible evidence of industrial growth and advances in Ontario's standard of living was the Commission's record of energy, both generated and purchased. In 1940, Hydro generated and purchased 9,804,992,384 kilowatthours, compared with 18,811,452,056 kwhrs. generated and purchased during 1951 — an increase of 49.9 per cent over 1945 and an increase of 91.9 per cent over 1940.

Rural Growth

Turning to Hydro's rural operations, Mr. Saunders said:

"There never was a time when the Ontario farmer deserved more encouragement and, there is no class of customer who appreciates the value of low-cost power in abundance more than the Ontario farmer."

The Commission's rural service, he said, had grown from 19,251 miles of line serving 122,358 rural customers in 1940 to 38,199 miles of line serving 318,606 rural customers in 1951. The average farmer in 1951 used an estimated 287 kilowatthours a month as against 133 kilowatthours in 1940, an increase of 115.8 per cent. The average farm cost of energy was 2.56 cents per kilowatthour in 1940 and an estimated 1.97 cents in 1951, a decrease of 23.1 per cent.

To bring power to rural areas wherever economically possible, Hydro spent, between 1921 and the end of 1951, an accumulated total of $127,243,648, of which $63,203,340 has been received from the Ontario Government — a grant-in-aid to assist rural sections.

"In 1947, based on the 1941 census, 48 per cent of all farms had electricity," said Mr. Saunders. "Today, as a result of our tremendously accelerated program of expansion, over 72.5 per cent of Ontario farms have electricity — an enviable position in a province as widespread as ours."

Municipal Customers

Continuing, the Chairman reported that there had been a steady increase in the number of municipalities associated with Ontario Hydro. In 1950, the Commission was serving 1,132 municipalities while at the end of 1951, this figure stood at 1,175, of which 356 were either under cost contracts or urban types of service.

In 1951, it was estimated that there were 795,000 domestic customers of municipal commissions and that they paid for energy an average of 1.088 cents per kilowatthour. This represented an increase since 1940 of 259,529 or 48.5 per cent in the number of customers: a decrease in cost during the same period of 0.238 cents or 12.7 per cent.

Northern Ontario Properties

Growth throughout the Northern Ontario Properties, said Mr. Saunders, was reflected in the record amount of energy utilized during the year, when a total of 1,946,786,583 kilowatthours was reached — an increase over 1950 of 16.6 per cent.

With a dependable peak capacity in the Northern Ontario Properties of 425,469 horsepower, Hydro was able to meet all primary demands, which increased during the year by 10.9 per cent to a peak of 384,253 horsepower. Primary energy demands for 1951 exceeded those of 1950 by 14.8 per cent.

Direct Customers

Referring again to the industrial expansion of Ontario, Mr. Saunders said that since 1920 the Commission had increased its service to direct industrial customers from 49, using a total load of 116,000 horsepower, to 203 customers whose combined average demand during 1951 reached 1,259,064 horsepower, an increase of 11 per cent over 1950.

Dealing with the overall consumption and revenue picture, the Hydro Chairman reported that, in 1940, 8,471,897,661 kilowatthours were sold for $55,743,357.37 or an average revenue per kilowatthour of 0.658 cents. In 1951, an estimated 16,500,000,000 kilowatthours were sold at a cost of $134,000,000, or an estimated average revenue per kilowatthour of 0.812 cents.

The number of customers also showed remarkable growth, indicating "the tremendous change in Ontario's domestic and business life". The number of customers of all classes served directly, or indirectly through municipal commissions, had grown from 751,504 in 1940 to an estimated 1,244,209 in 1951.

Hydro Chairman Announces Rebate of $2,520,899 to Municipal Systems

evement

To cope with an unexpected postwar increase in demand for power, Hydro, Mr. Saunders continued, began, in 1945, a $592,000,000 expansion program, which later was increased to $613,000,000. But 18 months ago, with demands beginning to grow out of all proportion to previous estimates, the program was again stepped up, until, by December 31, 1951, the total cost was estimated at $973,200,000, of which the major items were:

Power Generation ----	$539,494,000
Transmission --------	106,054,000
Transformation frequency changes and service ----------	144,816,000
Rural ----------	104,110,000

"It is anticipated that this program will be completed by 1955," said Mr. Saunders. "By that time, we shall have added over 3,000,000 horsepower of dependable capacity to our resources and brought into operation 10 major generating stations and expanded two existing plants."

Since 1945, he said, six hydraulic stations, two steam-electric, six emergency steam-and-diesel-electric units and extensions to two more hydraulic stations, had been completed. In 1951, stations placed in initial service were the 536,000-horsepower R. L. Hearn Generating Station in Toronto and the 354,000-horsepower J. Clark Keith G. S. in Windsor. Both these stations, stated Mr. Saunders, were expected to be delivering their maximum output by 1953. Work also proceeded on the Otto Holden development at La Cave, near Mattawa, on the Ottawa River, and the first unit was brought into operation in January, 1952.

"Of course," said Mr. Saunders, "one of the highlights of 1951 was the progress made on the largest project Hydro has ever undertaken — the Sir Adam Beck-Niagara Generating Station No. 2. This $182,000,000 project, which will



DURING his address to O.M.E.A.-A.M.E.U. delegates, Ontario Hydro Chairman Robert H. Saunders stated that the supply of low-cost power in abundance had been the greatest single factor in placing this province in the pre-eminent position it now occupies.

have an installed capacity of 700,000 horsepower, is scheduled for initial operation in 1954 and completion of the first stage is expected by 1955."

A construction force of some 3,000 men was on the job at the end of 1951, working on the 5½-mile hydraulic tunnel, the 2½-mile open-cut canal and other excavation work at the site. It was expected that a peak force of between 4,000 and 5,000 men would be working before the end of 1952.

Summing up the program, Mr. Saunders said that an undertaking of this magnitude, the like of which was unprecedented in the history of the Commission, was safeguarding the future economy of Ontario.

Frequency Standardization

Substantial progress also was made in Hydro's frequency standardization program. Since the program was launched in October, 1949, up to the end of 1951, some 178,400 homes, farms, factories and business premises — more than one-fifth of the estimated 886,000 Hydro customers in the "25-cycle island" — had their frequency-sensitive equipment changed over for 60-cycle operation. In all, more than 792,000 items had been changed to the higher frequency.

A significant event was the inauguration of a plan in January, 1951, which provided for advance extension of 60-cycle facilities to new industries or for established industries making plant expansions.

This plan was put into operation in order to offset the heavy 25-cycle load growth in certain areas, and to effect a saving over what would otherwise be a more costly standardization of this load. In all, 27 major municipalities already had taken advantage of the advance plan.

The Future

Turning to the future, Mr. Saunders said that even a moderate-sized hydraulic generating plant took about three years to reach the generating stage, a steam-electric station from two to 2½ years.

"It is obvious, then, that we must plan for years in the future. What will the load be in 1955 and 1956? Are we prepared to meet that load? What plans are we preparing for 1956 and 1957?"

Mr. Saunders assured the delegates that the estimates of future loads were being given the most careful consideration and study.

"It is also our belief at Ontario Hydro that for the proper protection of industry and our standard of living we should have from 10 to 15 per cent reserve capacity to take care of lack of water, mechanical breakdowns, or any condition beyond our control." To meet anticipated demands, the Chairman said that it was expected that an additional 1,648,794 horsepower of dependable peak capacity would be brought into service progressively up to 1955.

"It is our belief", said Mr. Saunders, "that the present program will protect our people until the end of 1955 without any reserve except possibly eight per cent during the latter part of 1954 and until the fall of 1955. This is one of the important reasons for our desire to develop the power resources of the St. Lawrence River."

Proper Provision

In his review of Hydro's financial position, Mr. Saunders expressed the belief that the 1951 accounts made "proper provision for the future protection of the sound financial position of both provincial and municipal systems and, I am happy to say, leaves a substantial balance for return to the municipalities."

"Of the refund, the municipalities of the Southern Ontario System will receive $2,417,949, the municipalities of the Thunder Bay System the balance or $102,950 — a total for both systems of $2,520,899." The rebate, added Mr. Saunders, compared favorably with those of the last seven years, and brought the total refund during this period up to $19,899,928.04.

Refunds For Rehabilitation

Mr. Saunders again emphasized that refunds should be used primarily for rehabilitation and betterment work, and not for rate reduction. The additional revenue was due to the tremendous load carried. Equipment, now overtaxed, must be maintained and improved, "to give our people proper protection and proper service."

In announcing new financial policies, the Chairman drew attention to the "tre mendous upsurge" in the cost of labo and materials, and the increased cost o frequency standardization due to rapi load growth. However, this increase i load also was producing a lower cost o power than would otherwise have bee the case.

"Having these factors in mind," h said, "the Commission decided that it wa sound to charge the cost of power in th 25-cycle areas with part of the cost o conversion in 1951."

"A similar kilowatt levy has been mad on the municipalities of the 60-cycle sys tem for their protection — the fund being earmarked for rate stabilization."

Other major points brought out in th financial review:



OVER 1000 municipal, commercial as well as Ontario Hydro representatives attended this year's O.M.E.A.-A.M.E.U. convention. Photo on right shows delegates during joint business session.

1. The assets of the Commission as of December 31, 1951, were $1,033,796,603 of which the Southern Ontario and Thunder Bay Systems' share was $923,860,588 and the Northern Ontario Properties $109,936,015.

2. Mr. Saunders said that "no general increase in rates to the municipalities will be necessary for the present year 1952 — I cannot go further than that statement." It was anticipated that steam-electric power would be used at a greater rate in 1952 and 1953 if load growth continued. This, added Mr. Saunders, was expensive and "may be a forerunner to what will happen in this province after 1956, if we are not allowed to go ahead with the St. Lawrence Development."

3. The delegates were given the assurance that the annual rate review policy of the Commission with regard to direct customers would be continued, bringing company rates in line with those prevailing in the adjacent municipalities—a vital factor influencing the cost of power to the municipalities.

4. Total revenue from municipal systems of Southern Ontario and Thunder Bay, adding the cost of power transferred to the Rural Power Districts and an amount appropriated from the Contingencies Reserve in respect of the loss incurred in supplying companies in the Thunder Bay System, amounted to $83,566,576.

In closing his report, Mr. Saunders expressed his personal thanks for the co-operation received by Hydro throughout 1951; to the A.M.E.U. and O.M.E.A., press, radio and labor; to the manufacturers and businessmen and Hydro's customers; to Richard L. Hearn, A. W. Manby and Dr. Otto Holden and their Hydro staffs, the Right Hon. Louis St. Laurent, the Hon. Leslie M. Frost and their cabinets, and with particular reference "to my very good friends, the Hon. C. D. Howe and Hon. Lionel Chevrier".

Appreciation

AT the annual meeting of the Ontario Municipal Electric Association held in Toronto, the following resolution was adopted:

"Resolved that this Association go on record as expressing our appreciation of the help and co-operation extended to us during the past year by *Hydro News*, which has given full coverage at all times."




V. A. McKILLOP
London
J. P. SKILLEN
Canadian Westinghou
Among the Speakers
REG. BEHAN
English Electric Co.
J. A. I. KIDD
Canadian General Electric Co.
RAY PFAFF
St. Catharines

GROWING HYDRO SYSTEMS PRESENT PROBLEMS

A.M.E.U. Speakers Give Papers On Interrupting Devices

MAIN theme stressed at the A.M.E.U. technical session on "problems in interrupting devices" during the recent convention in Toronto were the problems that have developed and were continuing to develop with the growing Hydro system. Co-ordinator of the session, G. D. Floyd, Director of Planning, H.E.P.C., pointed out in his introductory address that where the system was limited in magnitude, the short circuit current would also be limited.

"Anything which introduces impedance" he stated, "between the generating equipment and the point of fault on any given system will also limit the short circuit current."

Thus, where the system required transformation to obtain the required voltage, such transformation would introduce more or less impedance and thus limited the current to a value which could be accurately determined, he pointed out.

Mr. Floyd's paper served as a broad introduction to the more detailed papers presented by J. P. Skillen, Engineering Dept., Canadian Westinghouse Company, Ltd., Hamilton, who spoke on "Oil Circuit Breakers" and Reginald Behan, English Electric Co., St. Catharines, on "Fusing".

Mr. Floyd focussed attention on the fact that very few power systems remained static in their development. Extensions were planned and brought into being as required to take care of growing loads. With increases it was essential to provide greater conductivity in order to decrease system losses and voltage drop between the generating sources and the loads.

The Ontario Hydro system was no exception to this. The Southern Ontario System, in particular, had shown rapid and continuing growth from the time when there was one generating source at Niagara Falls.

Mr. Floyd then detailed the history of the power system and its growth, emphasizing the conditions peculiar to the Southern Ontario System. A detailed analysis was presented also on prevailing Ontario Hydro practice regarding short circuit limitations. In this latter connection, he stated that at 13.2 kv "we have arbitrarily designed our systems so that the 3-phase symmetrical short circuit will be limited to 500,000 kva."

"The story of circuit breakers is long and dramatic" stated J. P. Skillen as an introduction to his address on "Circuit Breakers and the Growing System." During his remarks he gave a brief history of the development of the modern circuit breaker.

Continuity of Service

Another highlight of Mr. Skillen's address was his declaration that continuity of service was a major problem of a distributing system. This continuity of service should not be jeopardized by

(Continued on page 8)



Hydro Radio Panel

COINCIDING with the 43rd annual meeting of over 1,000 Hydro men and women from all parts of Ontario in Toronto February 25 to 27, a special Hydro panel broadcast was featured by the CBC over a number of Dominion network stations.

Three widely-known Hydro personalities took part in the panel discussion. These men, shown above, are, from left to right, D. P. Cliff, Commissioner, Dundas Public Utilities Commission, and retiring President of the O.M.E.A.; Ontario Hydro Chairman Robert H. Saunders, and M. W. Rogers, Manager of Carleton Place Public Utilities Commission and retiring President of the A.M.E.U.

equipment which was not properly co-ordinated with the rest of the system.

Second major point emphasized was the importance of studying old circuit breakers to determine the possibilities of modernizing these pieces of equipment.

The use of breakers on a system which had inadequate performance was risky because this practice usually resulted in poorer continuity of cascade service coupled with the possibility of nullifying potential good service of equipment elsewhere on the system.

"You may be staking all on the chance a fault will not occur" he added.

Continuing, he stated that the best means of controlling growth was by interconnected sub-division which would keep the duty of each breaker low. This was doubly effective, since most systems had customers whose equipment was below standard. This would affect service rendered by a utility just as poor equipment on a system would affect the primary distribution, he stated.

High Rupturing Capacity Fuses

Third paper by Reginald Behan, English Electric Co., St. Catharines, featured an interesting discussion on "High Rupturing Fuses and Fusegear".

Standard fuses of past years gradually had become incapable of satisfactorily protecting against increasingly greater concentrations of short circuit capacity, the speaker pointed out, but they had been replaced by various other forms of circuit interrupting devices, frequently at substantially higher costs, he said.

However, a radically new type of fuse had been developed to overcome the limitations inherent in the older forms.

"Because this form of fuse" stated Mr. Behan, "is capable of handling short circuit currents far greater than previously possible, it is specified and marketed under the classification title: High Rupturing Capacity (H.R.C.)."

To be a reliable device an H.R.C. fuse must have the characteristics of: (1) high rupturing capacity; (2) non-deterioration; (3) low operating temperatures; (4) high speed of operation; (5) accurate discrimination; (6) voltage surge limitation; (7) current limitation and (8) accurate calibration.

These eight headings were discussed with a separate analysis of each. Mr. Behan then discussed the application of the H.R.C. fuse; apparatus to be protected; H.R.C. fuses for "steady-load" circuits; H.R.C. fuses for "fluctuating-load" circuits; motor loads; circuit breaker backup protection; and H.R.C. fuses as alternatives to circuit breakers.

Pat On The Back

John Fisher, Canadian Commentator and Raconteur, Addresses O.M.E.A.-A.M.E.U. Delegates at Joint Convention Luncheon

A HEARTY pat on the back, with a few words of judicious criticism, were administered simultaneously at an O.M.E.A.-A.M.E.U. joint luncheon during the recent convention when John Fisher, Canada's foremost salesman of Canadianism, gave a vivid word picture of this nation's past and future development.

Said Mr. Fisher: "We Canadians have been asleep, in material progress; we have been trailing 50 years behind the United States. But now that we are awake, industrially, we can proceed with full confidence in the political maturity of our country."

Western oil discoveries and northern iron ore deposits were credited by the speaker with large shares in Canada's sudden spurt—growth that might presently catapult the country into industrial greatness. He warned that Canada must retain her dignity and integrity, the qualities inherent in organizations like Ontario Hydro, where the smallest customer was given equal consideration with the largest, where genuine humility and a sense of proportion combined with technical skill and tremendous resources to produce a high standard of living and thinking.

"We don't need to have an inferiority complex. We have a big present, a bigger future, and we're probably the best governed country in the world."

Should Maintain Running Estimate

MUNICIPALITIES should maintain a running estimate of electric utility requirements for two or three years ahead, advised Ontario Hydro Comptroller E. H. Banks in a discussion of municipal financing before an audience of A.M.E.U. delegates at their recent convention.

Financing, where necessary, could be done in an orderly and well-timed manner if this were done, he said.

Estimating should be done before size of debenture issues was decided and should take into account:

1. The municipality's expansion plans, both housing and industrial, and their effect on local Hydro;
2. The distinction between revenue-producing and non-revenue-producing installations;
3. Anticipated surpluses, or deficits;
4. Funds created by depreciation reserve provisions;
5. Anticipated frequency standardization expenditures;
6. The extent of maturing debt not already provided for in operating estimates.

Where the whole picture was made visible, the timing of any necessary debenture issue could be controlled to some extent.

Mr. Banks also explained that rates of interest on issues were determined by supply and demand in the money market and by government financial control policies as well as by the nature of the work to be carried out with the money raised.

If proposed expenditures were for revenue-producing installations, interest rates would be lower, probably, than in the case of non-revenue-producing expenditures. For this reason, municipalities might find it most economical to separate borrowings on behalf of the Hydro utility.

Methods of handling the issue of debentures, with proper procedure for gaining municipal, Ontario Hydro and provincial approvals were next outlined by the speaker, and in conclusion he gave a brief analysis of present and possible future money market conditions, prepared for the delegates by the Commission's Treasurer, F. R. Brebner. — *Lois Martin.*

Valedictory Address

O.M.E.A. Pledges Support

President D. P. Cliff Stresses Importance of Facilitating Rate Adjustment to Meet Increased Cost of Power



D. P. CLIFF

FULL support of the Ontario Municipal Electric Association will be given Ontario Hydro in any adjustment of rates deemed necessary to meet the increased cost of power, according to an announcement made by D. P. Cliff, retiring President of the association, in his valedictory address at the recent annual convention.

"Electrical energy in this day and age," said Mr. Cliff, "has become a prime requisite to normal and comfortable living—yes, even to our ability to live as free people. Therefore, we must encourage the Commission to keep adding to its dependable capacity until we can enjoy a reserve of power of at least 10 percent!"

Under present conditions, a year of low precipitation or a major breakdown of one of the plants, would be a catastrophe for customers and would make "our position as commissioners untenable", he said.

"To provide this reserve it will cost money," he continued, "but we cannot afford not to spend it. To do otherwise would be only courting disaster. I believe it is not too early, even though rates will remain the same this year, to inform the public of these facts, and prepare them for the increase which surely must come."

Mr. Cliff referred to the tremendous efforts put forth by the Commission to meet the increasing demand for electricity by all classes of Hydro customers. Despite the fact that consumption was over three billion kilowatthours in excess of the previous year, Ontario Hydro in 1951 had been able to fill the needs of all its municipal customers without cut-offs. Generating facilities were being exploited to the last kilowatt in order to keep pace with the demand and at a cost to the customer, in most cases, less than that of 20 years ago.

This, the O.M.E.A. President went on to say, was not a healthy condition for Hydro. The duty of the Commission was to supply power at cost, but certainly not below cost. The cost of almost every commodity had nearly doubled since pre-war days, and it was one of the marvels of the age that the Commission contemplated no increase in rates for 1952.

St. Lawrence Project

Referring to the relatively low cost of operating hydro-electric compared to steam-electric generating stations, Mr. Cliff said that he had every confidence in the fair-mindedness of the Government and people of the United States and that he believed that the necessary co-operation on their part for carrying out the 2,200,000-hosepower joint St. Lawrence power project would soon be forthcoming.

"Our Hydro Chairman, Robert H. Saunders," said Mr. Cliff, "is worthy of our highest praise for his dynamic efforts to bring negotiations to fruition. We should not adopt the attitude, however, of 'let Bob do it.' Realizing the gravity of the situation, we should do all in our power to assist him in this crusade."

High tribute was paid by the O.M.E.A. President to the late Albert Jennings, formerly Chairman of the East York Hydro-Electric Commission. He had been a pioneer in Hydro activities in his district, the speaker said, and he had given outstanding service to the association. He would be missed by a host of friends throughout the length and breadth of the province.

Advisory Council

Describing it as one of the most eventful happenings in Hydro circles during the past twelve months, Mr. Cliff drew attention to the decision of the Provincial Government to appoint an Advisory Council to the H.E.P.C. On learning of this decision, he had called a meeting of the association's executive and a resolution had been passed requesting that the Government withhold all appointments pending an interview with Prime Minister Frost. While appointments, including O.M.E.A. and A.M.E.U. representatives, had already been made, the committee, Mr. Cliff stated, had been given to understand that the whole question

(Continued on page 29)



OPENING up the greatest industrial area in the world to deep-draught, ocean-going vessels, the St. Lawrence Seaway would nearly double the tonnage carried by vessels now plying the Great Lakes and effect an annual saving of between $45 million and $50 million in transportation costs.

This was the overall picture presented by W. Ross Strike, Q.C., Second Vice-Chairman of Ontario Hydro, in addressing the Ontario Municipal Electric Association at its recent annual convention in Toronto.

In an interesting historical prelude to an exposition of the far-reaching benefits which would be derived from these undertakings, Mr. Strike took his auditors back to the early days when the voyageurs in their canoes and bateaux traversed the St. Lawrence on their way to the Great Lakes and the fur country beyond. He carried them along through the sailing days of the past century and then up to the time when the mighty river, giving access to the heart of a continent, became one of the greatest traffic lanes in the world.

Why Halt Improvements Now?

Down through the years, he told the crowded meeting, there had been progressive improvements to navigation facilities—two-and-a-half-foot canals, then 5-foot canals, and then a deepening to the present 14-foot canals in the International Section. And now today, when the value of this great waterway, both to continental defence and to continental development, was emphasized as never before, there were those who contended that improvements on a scale adequate to meet present and future requirements should cease and that the march of progress should be halted in its stride.

The St. Lawrence system, Mr. Strike pointed out, extended through the Great Lakes, 2,200 miles inland. Its importance as a cheap transportation route could not be over-estimated. Without it the wheat of the prairies would have choked the farms that grew it. Western Canada and the United States could never have competed with other grain-exporting countries of the world. The iron ore of the Mesabi Range would have been cut off from the steel mills in the east and the supply of coal from a large section of the factories as well as from the railway systems.

Dealing with the present situation with respect to navigation, Mr. Strike stated that from the sea to Montreal, there was

St. Lawrence Vital To Nation's Progress

Hydro's Second Vice-Chairman Brings Situation Up to Date in Address At O.M.E.A. Convention



W. ROSS STRIKE, Q.C.

a minimum depth of 32½ feet. Drainage and the improvement of facilities now being undertaken would shortly give a minimum depth of 35 feet.

From Montreal to Prescott there was a depth of 14 feet over a total length of 47 miles. Then from Prescott to Lake Ontario, a depth of 27 feet was available.

The speaker referred to the Welland Ship Canal as one of the most admired feats of canal building in the world. It was undertaken entirely, both with regard to design and construction, by Canadian engineers. It had seven lift locks and one guard lock, raising and lowering vessels 326 feet from the level of Lake Ontario to Lake Erie. The depth of the Welland Canal along its reaches was 25 feet, with a depth of 30 feet at the lock sills.

Above Lake Erie, most of the major improvements had been made by the United States. In this section the present depth was 21 feet for westbound traffic and 25 feet for eastbound.

At Sault Ste. Marie there were five locks to overcome a 21-foot difference in level between Lake Huron and Lake Superior. Four of these locks were on the American side and one on the Canadian side. One of the American locks had a depth of 30 feet, conforming to the standards adopted in the planning of the Seaway. The lock on the Canadian side had a depth of only 18 feet and could not pass the larger upper lake freighters.

The present tonnage passing through the Sault canal in seven months of the year, the speaker pointed out, exceeded the combined canal traffic through the Panama Canal, the Suez Canal, the Manchester Ship Canal and the Canadian St. Lawrence Canals for 12 months.

Will Nearly Double Traffic

During the past few years, Mr. Strike stated, cargoes carried by vessels of sufficiently shallow draught to be passed by the existing canals had averaged 25 million tons per annum. With the completion of the Seaway, there was prospect of traffic tonnage being increased by 20 million tons per annum through the shipments of iron ore from Labrador alone.

The summation of the cost of improvements to navigation facilities on the St. Lawrence showed that, to date, Canada had expended approximately $300,000,000 and the United States $93,000,000. Fifty percent of Canada's expenditures had been made during the period when each construction dollar represented at least four of today's dollars. Mr. Strike contended that it was reasonable to say that Canada's spending to date had been the equivalent of a billion dollars in terms of the present value of money, and he insisted that this should be kept in mind when considering the estimated cost of the seaway project. Putting it bluntly, Canada had already gone too far with improvements to abandon the project now.

Focussing further attention on the power development project itself, Mr. Strike said he was prepared to admit that it would cost more if Canada played a lone hand on the seaway, with the United States co-operating only with respect to the power scheme. He explained that the reason for this was that the present agreement between the Province of Ontario and the Government of Canada provided that not only the cost of the dam and powerhouse, but, also the facilities for navigation from the site of the development west to Prescott would be chargeable against power. With the United States participating in a joint seaway development, the deep water canals would be located on the American side of the river in the international section.

Mr. Strike went on to explain that after a great deal of consideration, it had been agreed that the charging of these additional costs to power was justified in a purely Canadian scheme, especially as there was an undertaking that, should the deep waterway revert to a joint construction project by the United States and Canada, then the former allocation as to

(Continued on page 29)

Convention



CHAS. FRALEIGH,
BLOOMFIELD



DOUG. SEATH,
INGERSOLL



JIM GRAY,
NORTH YORK



E. R. WILKINSON,
BOLTON



HENRY LONGHURST,
WINDERMERE



H. STANLEY GRAHA
NEWCASTLE

Caricatures

by "MAC"
Toronto Telegram
Caricaturist



BERT ATKINSON,
TRENTON



AL. HAMILTON,
FOREST HILL



N. H. McLENNAN,
PORT ARTHUR



ERNIE DENT,
ORONO



FRED CAVERS,
ST. CATHARINES



CHAS. DOHERTY,
BEAVERTON





Debate Power of Election

FEATURED by varying expressions of opinion on the proper function of various elected groups in representative government, 21 resolutions were dealt with by delegates at the annual convention of the Ontario Municipal Electric Association.

With D. P. Cliff of Dundas, President of the Association, in the chair, and F. H. Plant of Ottawa, Chairman of the Resolutions Committee, submitting the recommendations, the theme song of the session was introduced in minor key at the reading of a resolution presented by District No. 5.

This resolution asked for endorsation of the efforts of the Executive of the O.M.E.A. to secure direct representation on the Ontario Hydro Commission—one representative if the Commission should continue to be composed of three members and two representatives if it were enlarged to five. Endorsement was also asked for representation on the Advisory Council appointed by the Ontario Government.

The Committee recommended concurrence, but Bertram Merson of Toronto took objection to the motion on the ground that the association would, in effect, be asking the government for permission to appoint its own members to the council and to the H.E.P.C. Submitting names to the government was a quite proper course. To go further would be to assume the prerogative of the legislature, he said.

Disagreement with this view was immediately voiced by D. P. Herring, of Sarnia, who maintained that any body elected by the people had rights within the scope of its activities to which deference should be paid. In their more limited way, such bodies were also a part of government.

On a show of hands, the resolution was carried, with a reference back to the Executive Committee for further clarification. Another similar resolution from District No. 6 was also endorsed.

Prerogative of City Council

"Since when has a city council ceased to be the accredited representative of the people it serves?" was the question asked by Dr. Charlotte Whitton, Mayor of Ottawa, as she rose to speak to a motion which invoked the longest and sharpest debate of the meeting.

District No. 8 had presented the fuel for controversy with a resolution to the effect that the O.M.E.A. request the Ontario Legislature to enact the necessary legislation to enable local Hydro commissions to appoint a commissioner to fill a vacancy created by the death or resignation of a sitting commissioner.

"I am glad to see that the committee has recommended non-concurrence," said Dr. Whitton. "If this resolution passes it will be a denial of democracy. There is nothing so devastating as a self-perpetuating public service body which has no direct responsibility to the electorate. The municipal council, which directly represents the people, is the only body vested with the proper authority to make appointments of this kind."

Again Mr. Herring of Sarnia defended the right of appointment by commissions. He respected Dr. Whitton's opinion, but, in this matter, he felt obliged to voice his dissent. The local Hydro commission, he declared, was in a better position to know who were best suited for administering its affairs. He expressed the view that it was not good government to make appointments over their heads.

Dr. Whitton stated that it would be tragic if people were to lose confidence in civic governments immediately they had elected them to office. They were

ONE of the highlights of the annual O.M.E.A.-A.M.E.U. convention is the joint banquet. This year's guest speaker was Hon. Gay Brown, former Justice of the New York State Supreme Court.

the true representatives of the people of the municipalities which they served and they alone were vested with the power and authority to act on their behalf. If the people disagreed with their actions, they could turn them out. That was representative democratic government as she understood it, she said.

Mayor D. J. Thomas of Welland hastened to the support of the Mayor of Ottawa, followed by Henry Walter of Brockville and Loftus Reid of Toronto, while F. R. Cavers of St. Catharines and others took their stand beside the delegate from Sarnia. The debate gathered momentum and Chairman Cliff had some difficulty keeping it within bounds. Finally, when the question was put to the meeting, the motion of non-concurrence received a decisive majority and the resolution went down to defeat.

Advisory Intermediate Body

While the majority of the delegates were averse to supporting actions which might suggest infringement upon the authority of government, they were favorable to measures, which, freed of this implication, could be regarded as strengthening the position of the O.M.E.A.

A resolution from District No. 4 affirming that the association should be regarded as the advisory intermediate body through which the H.E.P.C. should contact the local Hydro commissions and their ultimate customers was carried almost unanimously, and the incoming O.M.E.A. President was requested to forward it to the Ontario Government.

Strengthening this resolution, the delegates approved another to the effect that whenever the H.E.P.C. contemplated taking over rural customers served by any municipality, it first consult with the municipality with a view to arriving at an economical and amicable settlement in advance. This came from District No. 2.

Approval was also given to a resolution from District No. 5 that the Government of Canada be asked to reduce the tax imposed on household appliances to its former level so that the present high standard of living could be maintained. This resolution will be forwarded by the O.M.E.A. Executive to Hon. Douglas C. Abbot, Minister of Finance.

Resolutions Approved

The following additional resolutions were approved:

"That the Executive Committee set up a special committee to study ways and means to include rural representation in the O.M.E.A. through the medium of central municipal organizations such as the Municipal Association in the northern districts of the province." The resolution applies only to districts where there are no local Hydro Commissions.

"That existing legislation with respect to public utilities be amended to permit the municipalities to accumulate reserves in anticipation of expenses to be incurred in connection with frequency standardization and expansion."

"That the O.M.E.A. Executive appoint a standing committee to investigate long-term services of local Hydro commissioners and to decide upon suitable forms of recognition."

"That the Hydro-Electric Power Commission of Ontario be requested to confer with the Department of Municipal Affairs with respect to a uniform type of agreement with respect to monies paid in lieu of taxes by municipal utility commissions."

"That the O.M.E.A. express its approval of an increase in the annual grant to the Electric Service League of Ontario by the H.E.P.C. on behalf of the municipalities from the present $17,500 to $25,000 or $27,000 per annum."

Referred to the H.E.P.C. for study and report was a resolution that the O.M.E.A. give consideration to having owners of housing sub-divisions in urban municipalities provide an electrical distribution system for new sub-divisions at their own expense, subject to the approval of the H.E.P.C. and becoming the property of the local commissions.

Referred back to the Executive was a recommendation that a nominating committee be set up as a standing committee.

Resolutions Defeated

The following resolutions were defeated:

"That the annual meeting of the O.M.E.A. be confined to two days".

"That the terms of office of the five members representing the O.M.E.A. and the A.M.E.U. on the Advisory Council of the H.E.P.C. be limited to their terms of office with their respective association

(Continued on page 33)

O. M. E. A. RESOLUTIONS COMMITTEE



MEMBERS OF the 1952 O.M.E.A. Resolutions Committee obligingly interrupted deliberations while this photograph was taken. Evidently they were in complete agreement. Group seated includes, l. to r.: George F. Hutcheson, Gordon H. Fuller, W. E. Theaker, Frank H. Plant, Chairman, William Watterson, and C. H. Moors. Standing, D. P. Cliff, Pres., and Warren P. Bolton.

Presenting...



HIGHLIGHT of the concluding session at this y
O.M.E.A. convention was the presentation of a hand
set of matched luggage to retiring President D. P. Cli
Acting Secretary-Treasurer George Hutcheson (left)
commended Mr. Cliff's energy and his unselfish se



FIRST SECRETARY of the O.M.E.A., E. M. Ashworth, former General Manager, Toronto H.E.S., was presented with an engraved silver tray by President D. P. Cliff during this year's joint O.M.E.A.-A.M.E.U. session in recognition of Mr. Ashworth's long association with group.



AS AN EXPRESSION of
preciation for their hosp
ity and courtesy to A.M
executive members d
their visit to Sioux Loo
last fall, H. A. Schade, S
Lookout, and Fred Gr
slade, Kenora, were prese
with electric clocks by P
dent Morton W. Ro



ONTARIO HYDRO Chairman Robert H. Saunders received a pleasant surprise at the conclusion of his address to members of the O.M.E.A. and A.M.E.U. when he was presented with a large cake bearing the initials "R.H.S." and surmounted by a large figure "4" to mark his fourth anniversary as Hydro Chairman. The presentation was made by Chairman Loftus H. Reid on behalf of Toronto Hydro-Electric Commissioners and Ottawa's Mayor, Dr. Charlotte Whitton cut first piece of cake which the Hydro Chairman sampled amid applause of audience.



IN RECOGNITION of his untiring efforts on behalf of
the A.M.E.U., 1951 President M. W. Rogers was pre-
sented with an illuminated address and engraved silver
bowl by Past President Robert Butter, Owen Sound.

Convention Candids







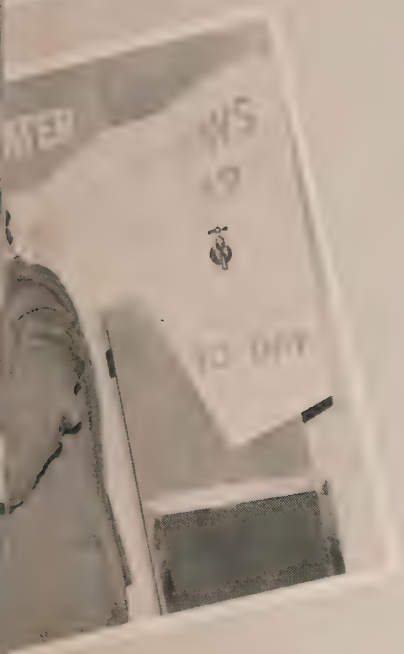


1. SWANSEA DELEGATES, N. L. Ivey and C. D. Car laddies received a "generous" share of the applau Hydro's First Vice-Chairman, left, was noticed in Loftus H. Reid and Secretary Douglas Moffitt, Toro drew the attention of LaSalle delegates, C. C. Ionso Service Division. 5. Arriving to deliver his annua was greeted by this Ottawa trio which includes O Ottawa Hydro Commission's General Manager, Geo caused by the smoke from the cigar of fellow Port Art G. A. Brace, Toronto, and A. W. H. Taber, Fort Willia interest of this group as Harold Hillier pointed out fe tive display was the Electric Service League's "Red points out the familiar League "trade-mark" to Geo 9. James A. Blay, centre, Hydro's Director of Publi the operations of this recently-formed division. S.













laxing between sessions. 2. These "braw' anquet program. 3. Hon. George H. Challies, with O.M.E.A. President D. P. Cliff, Chairman am. 4. Ontario Hydro's water heater display shown in discussion with Leo. Mullen, Consumer delegates, Hydro Chairman Robert H. Saunders Frank H. Plant, Mayor Charlotte Whitton and expression on R. B. Chandler's face was not extreme right. They were noted chatting with o's Sir Adam Beck No. 2 project attracted keen on's largest development. 8. Another attrac- J. President-elect Rex Martindale, of Sudbury, J. Cross, Hanover, and Chas. Copland, Aurora. Dietrich, Manager, were on hand to explain , is on the right.

CBC Commentator



Among the Speakers

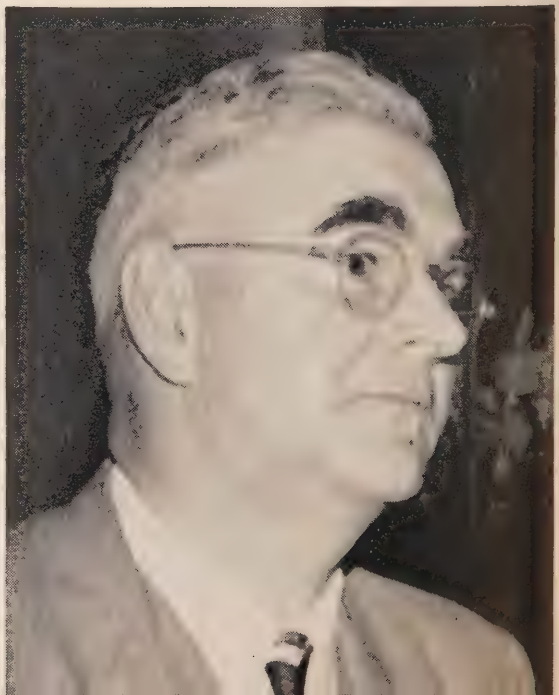
A. W. H. TABER
Fort William



FRANK DEAN
Toronto Hydro



F. C. CARTER
Moloney Electric Co.



Inherent Obligation

G. F. Dean, Toronto Hydro, Urges Municipal Commissions to Introduce Lighting Service Departments

"IN the sale of any commodity there is an inherent obligation on the part of the supplier to provide the purchaser with information as to its proper use", G. F. Dean, Supervisor, Lighting Service Department, Toronto Hydro-Electric System, told the A.M.E.U. session on "Planned Lighting Service", during the recent annual convention.

Mr. Dean, during his address, described the growth of lighting service departments. These departments were introduced by electric utilities some 30 years ago for the purpose of rendering a service to the customer, as well as promoting the sale of both lamps and power, in many cases, he said.

The rapid advance of the lamp business and the use of electricity for lighting had proven this to be a sound theory. However, merchandising methods had changed in the past three decades. More and more emphasis was being placed on advertising, goodwill, consumer relations and education.

"One has only to refer to the large scale advertising done by many of the other basic industries," continued Mr. Dean, "to realize that service in the form of consumer education, showing the uses and benefits of their commodities, is receiving more and more attention".

Responsibility of Utilities

Similarly it should be the responsibility of the utilities to do everything in their power to assist their customers to use their product, electricity, to the best advantage. In Ontario, lighting was almost wholly electric.

"Therefore, we have practically no competition in this field, but, that is no reason why we should abuse this favored position by not giving advisory service to our customers when such service is given by almost every industry which operates competitively and by many others which, like us, have little or no competition."

Mr. Dean emphasized that Ontario Hydro was most willing to assist any municipal commission to establish a lighting service department.

"For years," said Mr. Dean, "the executive of the Canadian Electrical Association has been trying to get action of this kind."

Top executives in the Canadian utilities realized the value to both consumer and utilities of lighting service. Two years ago in co-operation with Canadian trade magazines, the C.E.A. conducted a Lighting Data Sheet Contest for employees of member companies. The contest was for the explicit purpose of furthering interest in lighting service work. The results and winners of this contest were shown on slides by Mr. Dean at the conclusion of his address. The last group of slides shown were samples of the planned lighting layouts prepared for Hydro customers by Ontario Hydro and Toronto Hydro, and also some pictures of the layouts that had been installed.

"Since most consumers are unfamiliar with reading drawings", stated Mr. Dean, "the plans are made as simple as possible".

These plans did not cost much to produce, emphasized the speaker, but they produced profits in consumer satisfaction and goodwill. Last year Hydro Chairman Robert H. Saunders created a great deal of goodwill for Hydro by bringing to two schools the advantage of electric lighting. These acts of service resulted in much good publicity, the speaker pointed out.

"His own lighting service department," Mr. Dean stated, "last year alone gave planned lighting layouts for good lighting to 320 schools throughout Ontario."

Lighting service departments performed several useful functions: (a) they provided valuable service to consumers; (b) they created consumer goodwill; (c) they fulfilled an obligation to consumers; and (d) they assisted allied industries.

"The relative cost of the operation is small," concluded Mr. Dean. "Our cost is less than 10 cents a meter per year. The larger utilities should consider establishing such a department and the smaller utilities should use to the fullest extent the service given by the H.E.P.C." — *W. B. Prentice.*

New Pension Benefits

REPORTING on the Municipal Hydro Electric Pension and Insurance Plan, at the recent O.M.E.A. convention in Toronto, the committee, composed of P. R. Locke, A. B. Manson, Bert Merson, and R S. Reynolds, urged municipal authorities which still were not associated with the plan to join and share its advantages.

At the end of December, 1951, there were 108 municipalities subscribing to the plan and there was a total enrollment of 4,725 employees. The total amount of life insurance benefits in force amounted to $16,547,990. Death claims totalled $1,427,700. There were 357 employees drawing pensions, representing a monthly pension roll of $15,522.

The Committee also explained the new Supplementary Plan and urged all commissions to study its benefits, pointing out that they would be glad to arrange for providing specific figures as to costs, etc., to any commission interested.

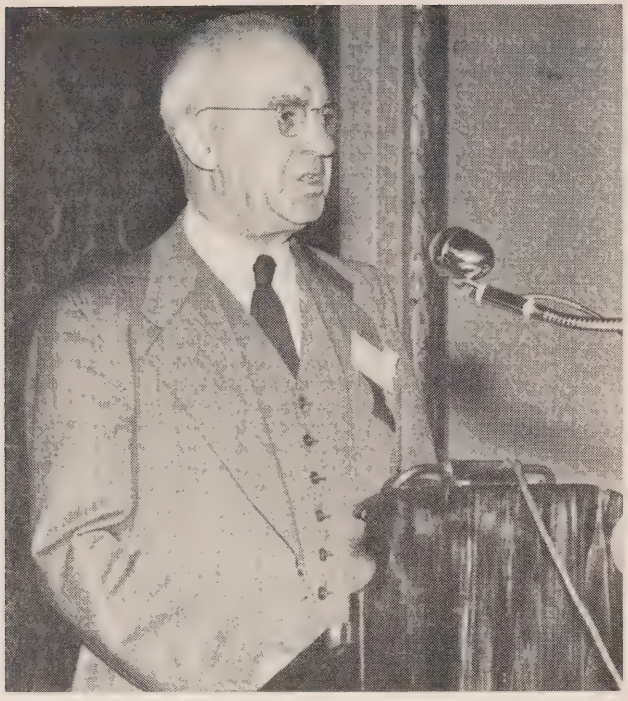
The Supplementary Plan, it was pointed out, provided both for those eligible for pension in future years and for those due for present or early retirement.

In the first case, the original pension had been enlarged by provision for additional service annuity benefits. Employees who were entitled to full benefits after 30 years' service would receive approximately 60 per cent of their salary at the time of retirement.

In the second case, the establishment of a minimum monthly pension was now under consideration. A suggestion in the Supplementary Plan was for a minimum pension of $85 a month for a minimum of 20 years of service. Where the years of service were less, the pension would be granted proportionally.

It was pointed out that any local commission was at liberty to adopt the Supplementary Plan for either or both classes of pensioners.

Regret was voiced in the report at the resignation of Mrs. K. Kestell, who had been Secretary-Treasurer of the Pension and Insurance Committee for the past 12 years. Mrs. Kestell was regarded as an authority on the plan and its operations. The report announced the appointment of Mr. Bert Merson as Secretary Treasurer. — *Harry M. Blake.*



M. W. ROGERS

Commends Rates Engineer Appointment

A.M.E.U. President Warns Against Over-Optimism About Power Situation

IN view of the steadily-changing conditions under which power was being supplied and sold, the appointment of a rates study engineer by Ontario Hydro was of the greatest importance.

This fact was stressed by M. W. Rogers, President of the A.M.E.U., during his opening address at this year's annual convention in Toronto.

Mr. Rogers pointed out that the matter of requesting the H.E.P.C. to appoint a rates engineer had been discussed by the A.M.E.U. Rates Committee and had been passed on to the executive in the form of a resolution.

"This subject affects every commission and, I believe, will become more important each year, more especially since we now have steam-generated power."

Power Situation

Reviewing the highlights of the past year, the speaker also mentioned the power situation. Although there had been a "slight margin of surplus power" he warned against feeling "too secure." In this connection, he said it had been estimated by Ontario Hydro that if power had not been cut during December, due to unforeseen difficulties, the primary peak demand in December, 1951, would have been 11.4 percent above that of December, 1950. Against this demand there was an increase in dependable peak capacity of 211,450 kilowatts or 7.7 percent.

"Thus, it can be seen that the development of the St. Lawrence is a 'must'," he declared.

Continuing his report, Mr. Rogers also referred to the honor conferred on four members of the A.M.E.U. by Ontario Hydro in re-naming four important H.E.P.C. stations in their honor. The speaker mentioned the official opening of the new steam generating station at Windsor which bears the name of J. Clark Keith, General Manager of the Windsor Utilities Commission.

"We have been recognized further in the naming of the Ross L. Dobbin T.S. at Peterboro; the E. V. Buchanan T.S. at London, and the R. H. Martindale T.S. at Sudbury All of these men have been very active in association affairs."

Advisory Council

Another outstanding event of 1952 was the appointment of the nine-member Ontario Hydro-Electric Advisory Council.

"This council has two members from our organization, J. Clark Keith and myself," he said, while the O.M.E.A. was represented by D. P. Cliff and C. H. Moors.

Dealing with the administrative structure of the association, Mr Rogers suggested that future executives would have to deal with the problem of obtaining a full-time secretary-treasurer. Committee work, he said, was increasing greatly, especially in the studies being made in connection with standards for cities and towns, as well as the wage survey.

"The H.E.P.C. has loaned us technical help in these studies, but, our secretary should be free to attend all these meetings and this would take a lot of time," Mr. Rogers continued.

A full-time secretary-treasurer also could keep abreast of items of interest to the association and advise on conditions.

"I cite as an example of this, the new regulations brought down by the Department of Trade and Commerce respecting electrical meters. These regulations can make a lot of extra work for utilities and not serve much good. No one was aware of the changes until they were printed in final form."

Expressing his thanks to "Ron" Mathieson, Secretary-Treasurer, and to his assistant, Mrs. Ferguson, for their work during the year, the retiring president also commended the co-operation of the O.M.E.A. and the H.E.P.C.

In concluding, he reported on the financial standing of the association. Total receipts for the year 1951 were $7,067.54, while expenditures totalled $5,697.58, leaving a credit balance of $1,369.96.

— *W. B. Prentice.*

Sudbury Power "Dean" Passes

AFFECTIONATELY regarded as the "father of hydro-electric development" in the Sudbury district, Alexander H. Skene, died recently at his home in the Nickel City.

Widely-known and respected by a host of Hydro associates, Mr. Skene retired as Special Adviser to the Commission in 1950 after over a half-century of distinguished service in the power field.

Born in Turrif, Scotland, he came to Canada at the age of 20 and was first employed as superintendent at a power plant in Bracebridge.

He moved to Sudbury in 1904—two years before Ontario Hydro came into being—and joined the firm of Cochrane and McVittie which at that time was building the Coniston Generating Station. When the Wahnapitae Power Company was formed Mr. Skene was made Manager.

Under his direction the McVittie plant was built in 1912, and the Stinson plant constructed in 1923, to supply growing power requirements in the area.

In 1930, when Ontario Hydro took over the Wahnapitae Power Company, Mr. Skene was appointed Sudbury District Superintendent.

During the ensuing years, power was brought in from Abitibi Canyon G.S., the Crystal Falls G.S. was added to the system, and Nipissing and Manitoulin Districts placed under his supervision.

In view of his intimate knowledge of operating conditions and his valuable experience in all phases of the Commission's activities in the Sudbury area, Mr. Skene was invited to act as Special Adviser in 1948 when he retired from the position of District Superintendent. He served in this capacity until his full retirement in 1950.

Attending his funeral were many Ontario Hydro associates including J. M. Hambley, Director of Operations, Toronto; H. R. Graham, Manager, Northeastern Region; A. B. Hayman, W. A. Ollen-Bittle and J. Penney, also representing the Northeastern Regional Office at North Bay.

Surviving Mr. Skene are his widow, the former Edna May Henderson; two daughters, one son, one granddaughter, five grandsons, and a sister and brother in Scotland.

F. H. Plant Elected O.M.E.A. President



MEMBERS of 1952 O.M.E.A. Executive. Front row, l. to r., G. F. Hutcheson, Huntsville, Secretary-Treasurer; F. H. Plant, Ottawa, President; D. P. Cliff, Dundas, Past President; Back row — Dr. Fred. Barron, Paris, Dist. 5 Vice-Pres.; Loftus H. Reid, Toronto, Dist. 4 Director; Col. A. A. Kennedy, Owen Sound, Dist. 2 Director; W. E. Theaker, Paisley, Dist. 2 Vice-Pres.; H. R. Henderson, Woodstock, Dist. 7 Vice-Pres.; C. K. Merner, New Hamburg, Dist. 6 Vice-Pres. and J. O. Booth, Fort William, Dist. 7 Director.

FRANK H. PLANT, of Ottawa, was elected President of the Ontario Municipal Electric Association, at the annual three-day convention of the O.M.E.A. and A.M.E.U. this year. Ontario Hydro Chairman Robert H. Saunders was again named Honorary President.

Prominent in civic affairs, Mr. Plant, a former mayor of Ottawa, has been Chairman of the Ottawa Hydro-Electric Commission for several years and was President of District 1 O.M.E.A. for several successive terms. He succeeds D. P. Cliff, of Dundas, Past President.

George F. Hutcheson, an Honorary Vice-President, is also Acting Secretary-Treasurer of the Association.

Other Honorary Vice-Presidents elected were: Fred Biette, Chatham; K. A. Christie, Q.C., Toronto; C. J. Halliday, Chesley; H. O. Hawke, Galt; and G. S. Matthews, Peterboro. District Vice-Presidents elected were: M. J. Elliott, Bowmanville, Dist. 1; W. E. Theaker, Paisley, Dist. 2; Samuel Ashton, Port Arthur, Dist. 3; W. P. Dale, Brampton, Dist. 4; Dr. Fred. Barron, Paris, Dist. 5; C. K. Merner, New Hamburg, Dist. 6; H. R. Henderson, Woodstock, Dist. 7, and G. H. Fuller, Windsor, Dist. 8.

District Directors elected for the ensuing year were: G. E. Findlay, Carleton Place, and Col. James Harris, Kingston, District 1; H. G. Robertson, Barrie, Col. A. A. Kennedy, Owen Sound, Dist. 2; J. O. Booth, Fort William, and W. W. Fuller, Sioux Lookout, Dist. 3; Loftus H. Reid, Toronto, and E. W. Grant, Toronto, Dist. 4; Roy Pierson, Brantford Township, and Wm. Watterson, Welland, Dist. 5; George Gordon, Kitchener, and A. J. Girdwood, Guelph, Dist. 6; J. Bevan Hay, London, and P. R. Locke, St. Thomas, Dist. 7; D. P. Herring, Sarnia, and W. P. Bolton, Windsor, Dist. 8.



CENTRALIA Change-over

by
Frank C. Wood
Public Relations Division (F.S.)

CENTRALIA, one of the most important R.C.A.F. stations in Canada, is now operating on 60-cycle power.

Changeover operations at this station, 28 miles north of London, had to be carried out with split-second timing, for Centralia provides facilities for training not only Canadian pilots but those of member countries of the North Atlantic Treaty Organization.

The Department of National Defence stressed that the over-riding consideration was to standardize this important training centre without causing any loss of flying time. This directive necessitated some close planning, as is evident by the recent record set up at the station of more than 1,000 take-offs and landings in one 24-hour period.

While Centralia was counted as only one customer, changeover at this station was similar to a small town as it comprises repair shops, hangars, living quarters, messes, dormitories, a school, hospital and hobby shop, as well as theatres and other recreational centres.

Unusual Equipment

This necessitated the standardization of 1,340 pieces of equipment, including several new frequency-sensitive items not encountered by technicians to date, such as Wind T's, anemographs, flasher signals and humidity indicators.

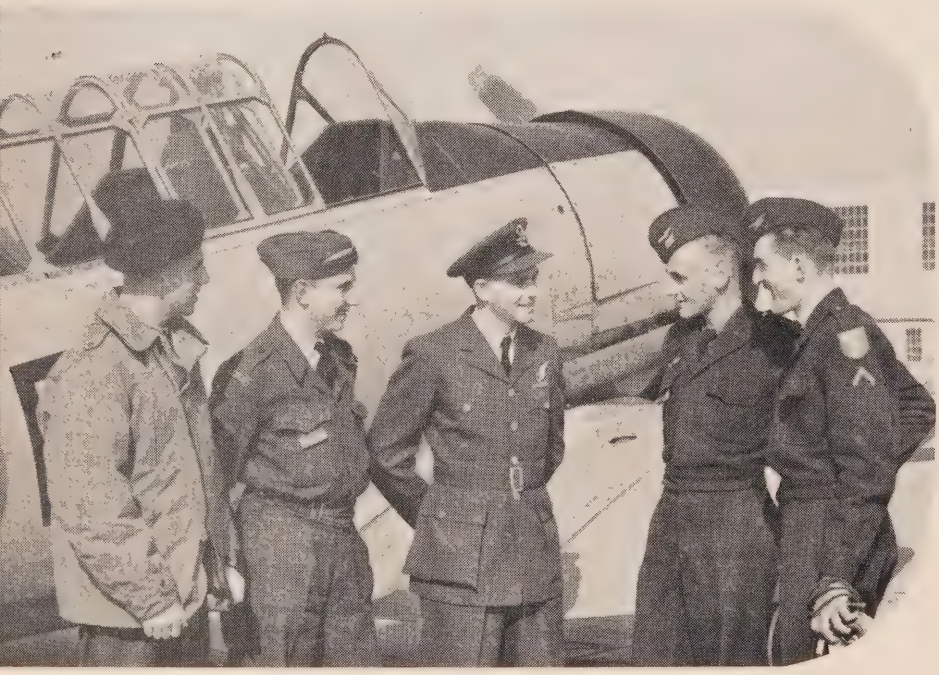
But most outstanding, perhaps, were the 10 "Link Trainers" at Centralia.

Photographer Robert Armstrong and the writer saw one in operation. A "trainee" pilot, quite invisible to the outside world, was turning banking, climbing and diving his "plane" on commands received by radio.

On a nearby table a moving instrument, familiarly known as the "crab," recorded every move the trainer made. From this recording, the ability of the student pilot is assessed.

Standardization of the "Links" involved changeover of motors operating refrigerator compressors and circulating fans for the vital air conditioning unit.

The problem of finding a suitable time



F/L G. J. RUSTON, centre, Centralia's P.R.O., chats with group of NATO cadets—Midshipman John Evans, England; Achiel Berth, Belgium; Caporal Chef Henri Mariotte, Paris, and Sergt. Roger Saillard, Algiers (France).



LINK TRAINER, one of 10 at Centralia. Motors operating air-conditioning equipment of each unit had to be changed over.

IN THE R.C.A.F. vernacular, the instrument above is known as the "crab." This intricate mechanism records the various movements of a link trainer in which student pilots take their preliminary training in flying.

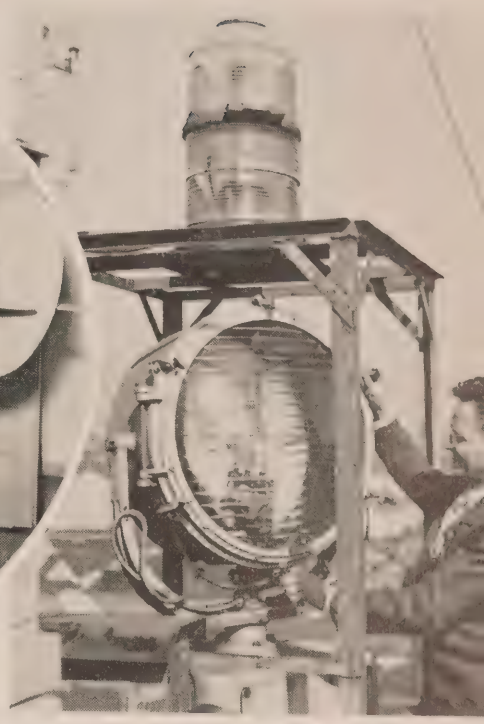
to change over the motors operating the pumps which transfer high octane aircraft fuel from the main storage tanks to the truck tankers (bowsers) was solved by technicians who carried out the "cutover" while the airmen, temporarily off flying duties, were rehearsing a graduation exercise for NATO pilots.

"Non-Sparking" Tools

It is of interest to record that the fire hazard involved in working near this inflammable aircraft fuel was minimized by Ontario Hydro technicians using "non-sparking" tools such as bronze and brass wrenches, pliers, etc. These tools, provided by the Commission for use during special tasks are extremely expensive. For instance, a normal wrench which can be obtained for about $8.00, costs $50.00 in brass or bronze.

When engineers planned a brief cut of power to the control tower, it was pointed out by the R.C.A.F. engineer that the time suggested was precisely that at which important meteorological information was received. This difficulty was circumvented simply by deferring the "cutover" for ten minutes.

In addition to standardization of technical equipment, was the changeover of some 1,200 pieces of domestic equipment in the 300 new houses adjacent to the station for airmen's families. Now airmen transferred from stations outside the "25-cycle island" are able to make immediate use of the 60-cycle equipment they bring with them.



ENGINEER L. G. Bell checks beacon atop Centralia's control tower. This beacon is visible for 60 miles under normal conditions.

Converter Sets

Prior to standardization, certain equipment at Centralia was operated at 60 cycles through the use of converter sets. R.C.A.F. technical personnel point out that maintenance has been reduced considerably through direct operation at the higher frequency, this applying particularly to the vital wireless equipment.

That Centralia was able to function normally while this important changeover project was in progress enables the achievement to be summed up in the satisfying phrase "Operation Co-operation."



SOME 300 airmen's families are accommodated in these modern homes at Centralia. During change-over operations at the important station some 1,200 pieces of equipment were altered.

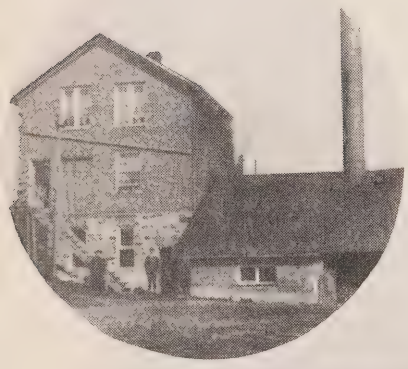


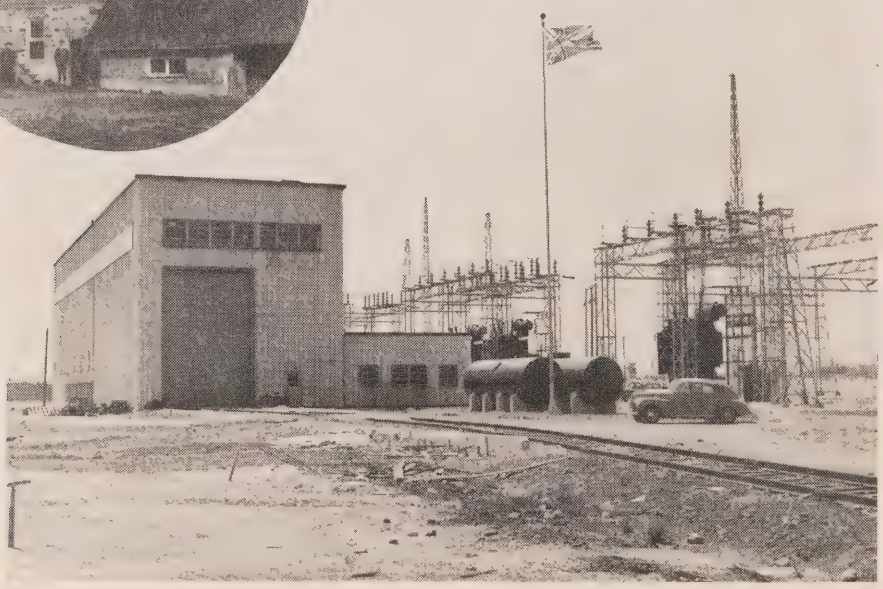


DURING the recent O.M.E.A.-A.M.E.U. Convention in Toronto, H. R. Graham, right, Manager of Hydro's Northeastern Region, which includes Sudbury, congratulates Mr. Martindale.

50th ANNIVERSARY

Rex Martindale Marks Half-Century of Service to Flourishing City of Sudbury as Manager of its Growing Electrical and Waterworks System





ON March 22, Rex H. Martindale of Sudbury took time out from his busy daily schedule as Secretary-Manager of the Sudbury Hydro-Electric Commission and Manager of Sudbury Waterworks Department to observe his 50th anniversary of service with the city. The significance of the occasion was heightened by the fact that relatives, friends and business associates were able to offer him a double measure of congratulations as the man just elected to the Presidency of the Association of Municipal Electric Utilities (of Ontario).

Mr. Martindale has been widely-known for many years in Canadian and U.S. electrical circles. Born at Alliston, Ontario, and educated there, he took a normal school course and gained a teacher's certificate before embarking on a career in the then infant electrical industry. Before 1902, when he went to Sudbury, he had worked in Alliston, Gravenhurst and Toronto.

In an address before an O.M.E.A.-A.M.E.U. convention in Toronto recently, Canadian writer and lecturer John Fisher remarked that men like Rex Martindale went north, in those days, as "an act of faith in Canada". Certainly, said Mr. Fisher, there were few immediate rewards, and only faith in the unlimited future of the northland sustained those who chose to throw in their lot with Sudbury's so early in the century.

The town, in 1902, had a population of 2,500. All its electric power came from a 75-kilowatt steam station, owned and operated by the town. Even the most enthusiastic utilities man could scarcely have envisioned the development which was to take place, for with the growth of a large-scale mining industry, Sudbury has become one of the most prosperous cities in Ontario. Its population growth represents a 1,000-percent expansion, to 50,000, and its electrical load has reached around 19,000 kilowatts.

Six years after arriving in Sudbury as manager of the electric utility, Rex Martindale was also made manager of the waterworks system. In 1923, he became a member of the Association of Professional Engineers (Ontario), and in 1936, when the Sudbury Hydro-Electric Com-

ONTARIO HYDRO'S key R. H. Martindale T.S., renamed in honor of the popular Secretary--Manager of the Sudbury Hydro-Electric Commission, contrasts strangely with the 75-Kilowatt steam plant (inset) which was supplying Sudbury with power when Mr. Martindale arrived there in March, 1902.

mission was set up, he took over as Secretary-Manager and, through special arrangement, continued his work with the other utility.

Efficiency and Economy

Mr. Martindale's accomplishments in the electric utility field are exemplified in the efficiency and economy of the Sudbury operation. The system he found in 1902 was debt-ridden, and it was also to prove inadequate within the next two years. It was in 1904 that Sudbury signed the first of three ten-year contracts with the Wahonapitae Power Company, (later purchased by Ontario Hydro) and rapid growth in demand involved the system in a debenture debt equal to almost half its assets by the time the local commission was formed.

Domestic Rates Down

Through years of rebuilding the system and putting it on a sound financial basis, domestic customers' rates went down from seven cents a kilowatthour (1936) to a 2.4 cent basic rate in 1944. It was in 1950 that expansion forced the Sudbury Commission to float its $250,000 bond issue—the first departure in 14 years from a strictly pay-as-you-go financial policy.

An indication of the growth now going on in the Sudbury area is the Ontario Hydro's recently announced plan to boost the R. H. Martindale T.S.' capacity from 16,000 to 50,000 kva by September, 1953.

Through the years, Mr. Martindale has always been active in club and association work. Since its formation, he has been a member of the A.M.E.U. and for many years he has been a member of the executive, twice as vice-president, before gaining the presidency this year. He has been a Trustee of the Canadian Section, American Waterworks Association, as well as Chairman, in 1949, of this Section. He has also been active for many years in the Sudbury Rotary Club and the Masonic Order.

A member of St. Andrew's United Church, Mr. Martindale has served on several church boards and as a choir member.

Among the honors which have been accorded the popular secretary-manager have been the naming of a Sudbury street, once known as Long Lake Road, "Martindale Road"; a 1942 presentation of a gold watch from the city in recognition of 40 years' service; and, in 1951, the renaming by Ontario Hydro of the Commission's key transformer and frequency changer station "The R. H. Martindale Transformer Station", in keeping with Hydro's policy of recognizing the services of distinguished engineers.

Election this year to the presidency of the A.M.E.U. brings fresh province-wide fame to this well-known Sudbury citizen.

Mr. and Mrs. Martindale have four children: two daughters, Mrs. L. C. Mandel and Mrs. D. A. Dinnes, and two sons, Charles, in charge of Hydro Stores, and William F., who has been associated with the Engineering Division of Radio Station C.K.S.O. at Sudbury for almost 15 years. There are five grandchildren.
Lois Martin.

Georgetown Men Honored



SINCERE CONGRATULATIONS are extended by Wills MacLachlan, Electrical Employers' Association of Ontario to G. W. McCallum, Georgetown, C.E.A. medalist. On either side are Georgetown linemen Bill Ritchie and C. R. Hoare.

HIGH-RANKING awards for prompt action in saving the life of a four-year-old boy last September at Georgetown were presented recently to three employees of Georgetown Hydro-Electric Commission. Presentations were made by Wills Maclachlan, Special Assistant to Ontario Hydro's Manager of Personnel, and Secretary-Treasurer and Engineer of the Electrical Employers' Association of Ontario, before a large audience at the joint O.M.E.A.—A.M.E.U. luncheon during the annual meeting of these associations in Toronto at the end of February.

G. W. McCallum, Superintendent, received the Canadian Electrical Association medal and two linemen, Bill Ritchie and C. R. Hoare, received C.E.A. certificates of assistance for their combined efforts in rescuing the boy who crawled through a six-inch space between the end of a wire fence and a substation building. He was burned on the back, chest, arms and feet and suffered injuries in an eight-foot fall when he came in contact with substation equipment.

As soon as the superintendent and linemen were called to the scene to unlock the gate and reach the child, they started artificial respiration. Although he seemed lifeless, the men were successful in bringing the boy back to consciousness. He is now receiving treatment at the Sick Children's Hospital, Toronto.

Mr. Maclachlan stressed the fact that such resourcefulness was the result of training in industrial safety methods.

R. H. Martindale Heads A.M.E.U.



A.M.E.U. EXECUTIVE for 1952—Front row—A. W. H. Taber, Fort William; R. S. Reynolds, Chatham, Directors-at-large; R. H. Martindale, Sudbury, President; M. W. Rogers, Carleton Place, Past President; O. H. Scott, Belleville, Director-at-large. Back row—O. W. Harris, North Bay; H. A. Howard, Thorold, District Directors; W. R. Mathieson, Secretary-Treasurer; E. A. Washburn, Stratford; G. R. Davis, Ottawa; R. B. Chandler, Port Arthur; and V. A. McKillop, London, District Directors; N. A. Grandfield, Galt, Vice-President; and W. G. Lane, of Collingwood, District Director, Georgian Bay District.

REX H. MARTINDALE, veteran Secretary-Manager of Sudbury Hydro-Electric Commission, was elected President of the Association of Municipal Electrical Utilities during the annual convention this year. He succeeds Morton W. Rogers, Manager of Carleton Place Public Utilities Commission.

Born at Alliston, Mr. Martindale recently completed 50 years of service with the Sudbury Commission. An article, dealing at greater length with Mr. Martindale's unique career, appears elsewhere in this issue.

Other members of the 1952 executive are: N. A. Grandfield, Galt, Vice-President; W. R. Mathieson, Toronto, Secretary-Treasurer. Directors-at-large were elected as follows: R. S. Reynolds, Chatham; O. H. Scott, Belleville, and A. W. H. Taber, Fort William.

District Directors: G. R. Davis, Ottawa, Eastern; G. E. Chase, Bowmanville, East Central; W. G. Lane, Collingwood, Georgian Bay; H. A. Howard, Thorold, Niagara; O. W. Harris, North Bay, Northeastern; R. B. Chandler, Port Arthur, Northwestern; Ron. Harrison, Scarboro, Toronto; V. A. McKillop, London, Western; E. A. Washburn, Stratford, West Central.

Harrow Manager Honored

ONE of the pioneers in Hydro's rural operations, Harold P. Green, former Manager of Harrow R.O.A. and Secretary-Manager of the Harrow Hydro-Electric System, was one of nine Western Region representatives feted recently at a retirement banquet.

Born in Leeds County and educated at Athens High School and Brockville Collegiate, Mr. Green graduated in electrical engineering in 1915 from McGill University.

He started his career with the Lyndhurst Telephone Company where he eventually became System Superintendent. In 1928 he was employed by the Department of Agriculture as an instructor in Farm Mechanics. He joined Ontario Hydro during that year and was employed at Sandwich and Harrow.

Mr. Green was appointed Superintendent of Harrow and Amherstburg rural districts in 1929. Later he was appointed Secretary-Manager of the Harrow Hydro-Electric System—a position he held until his retirement in November, 1950.

A charter member of Harrow Rotary Club, Mr. Green's hobbies include landscape gardening, hunting and fishing. During the retirement banquet, Mr. Green was presented with a radio, by E. R. Lawler, Manager of Hydro's Toronto Region.

WILLIAM TAIT PASSES

MANAGER of Picton Public Commission for the past 35 years, William Tait died recently in Prince Edward County Hospital.

A native of Caithness, Scotland, Mr. Tait was educated at Wolfe Island, near Kingston. He moved to Picton in 1912, and was employed as engineer at the power plant of the local utilities commission.

He was appointed Manager in 1916, and held that position until his death.

Mr. Tait was responsible for the expansion of the Picton Hydro system during his association with the commission, and was credited with introducing numerous improvements.

Mr. Tait was a member of the Anglican Church. He was a boating enthusiast and was a member of the Prince Edward Yacht Club. One of his main hobbies was gardening. He is survived by his wife.

Municipalities Exhorted To Assist "Red Seal"

SPONSORING adequate wiring through its "Red Seal" campaign, the Electric Service League of Ontario, through its representative Bert Merson, Vice-Chairman of the Toronto Hydro-Electric System, reported a year of progress at the annual convention of the O.M.E.A. Red Seal installations in 1951 increased by 205 percent over 1950, with 7,663 more switch-boxes carrying the symbol of the League's approval.

Last year's results, according to Mr. Merson, represented only a fraction of what could have been accomplished if the activities of the League had had the full support of all the Hydro municipalities. Ontario Hydro, he pointed out, had done its share and so had the electrical industry, but only 130 municipal commissions had given substantial aid. He had this message for the delegates to take back home:—

"Every Red Seal installation in your community is a means to a greater use of your productive services. Red Seal homes and buildings will build up your revenues and keep down your costs. It is your job to get your customers to wire adequately so that they can meet their load requirements now and in the future."

Vital To Nation's Progress

(Continued from page 11)

costs attributed to power and navigation would prevail. In this connection, it was pointed out that, in a strictly Canadian development, an appropriate American authority developing the power on the American side of the river would bear half of the added cost charged to power.

Situation To Date

"Canada," said the speaker, "has now passed enabling legislation permitting the building of canals in the International Rapids Section of the St. Lawrence to a minimum depth of 27 feet, entirely in Canadian territory. This particular construction, therefore, does not require any legislative action by the Congress of the United States."

In order to proceed with the necessary development of power and to provide the proper levels at all times in the canal, it was, however, necessary to construct dams across the St. Lawrence River. The main control dam would be constructed entirely in United States' territory, and lands, on both the Canadian and American shores, would be flooded by the resultant rise in water levels caused by its construction.

In order to proceed with the power project, Mr. Strike explained that it was first necessary to secure the approval of the International Joint Commission which was set up by the Governments of Canada and the United States many years ago to bring in recommendations to both Governments as to the proper use of the three main facilities in all international waters used in common by United States and Canada—domestic water supply, navigation and power.

"I should point out," Mr. Strike added, "that some appropriate authority must be designated by each country to proceed with the development necessary for power both on the Canadian and American sides of the St. Lawrence River."

Mr. Strike made it sufficiently clear that The Hydro-Electric Power Commission of Ontario would be named to carry out the development on the Canadian side of the river, but that no authority had as yet been designated for the American part of the development. He intimated that there were elements in the situation which made it necessary to exercise caution in forecasting what would happen.

As far as the economics of the proposed power project were concerned, Mr. Strike could conceive of no doubt in anyone's mind that it would be self-liquidating.

In concluding his address, Mr. Strike voiced the opinion, that further delay in undertaking the St. Lawrence Deep Waterway and Power Project might seriously impede Canada's march towards new horizons of progress and prosperity. — *Harry M. Blake.*

PLEDGES SUPPORT

(Continued from page 9)

and the principles involved would be brought under review in the near future when representatives of the association would be welcomed at the discussions.

Distribution Standards

Passing on to a brief review of the work carried out by the various O.M.E.A. committees during the past year, Mr. Cliff spoke of the studies carried out in association with the H.E.P.C. and the A.M.E.U. with a view to establishing standards for municipal distribution systems. While the task required much time and patience, considerable progress towards the objective had already been made.

The Insurance Committee, it was pointed out, was now in possession of all data concerning the amount of insurance carried by all the Hydro municipalities, the premiums paid covering the 1939-50 period, and the total fire losses recovered in that period. Recommendations would be made when the study of this data and its implications was completed.

"Let us not forget," said Mr. Cliff, in concluding his address, "that it was a municipal association that gave birth to this great Hydro enterprise. Men of vision and determination, since its inception, have served the cause for which we now labor. To us is entrusted a great heritage based largely on the principle of co-operation. Let us conduct ourselves and the business of this meeting on the same high principle."—*Harry M. Blake.*

Largest Delegate Attendance

REPORTED to be the largest "delegate attendance" on record, 1,083 accredited representatives took part in the joint annual con vention of the Ontario Muncipal Electric Association and the Association of Municipal Electrical Utilities held at the Royal York Hotel in Toronto.

In 1949, there was a total attend ance of 1,131 — in point of numbers somewhat exceeding this year's registration. Many members of the two associations who were not delegates, however, took advantage of the low $2.00 registration fee to attend the meeting that year. This year's fees were $11.00.

Among the Speakers

G. H. GALLIMORE
Automatic Electric Co.





J. E. TECKO
Windsor



HON. GAY H. BROWN
Former Justice
of Supreme Court
State of New York



E. H. BANKS

Substantial Progress

Equipment and Appliances of 184,319 Customers Changed Over, Director of Frequency Standardization Tells Delegates

BY the end of January, 1952, equipment and appliances of 184,319 customers had been changed over for operation at 60 cycles, according to a report made by H. H. Leeming, Ontario Hydro's Director of Frequency Standardization, to the Ontario Municipal Electrical Association at its annual convention.

Included in this number were 2,414 industrial customers, while many others in the same class were being encouraged to carry out the changeover in their plants and factories in advance of the general program in all 25-cycle areas where 60-cycle power was now available.

Under this "advanced" frequency standardization plan, Mr. Leeming stated that agreements had been executed up to the reporting date with 63 industrial customers. In addition, 57 agreements were being negotiated. It was expected that the number of customers proceeding with their own conversion would increase appreciably this year, he said.

Work In Progress

Work on the frequency standardization program was now being carried out by the Commission's contractor in Windsor, the Stratford and Kitchener areas, and on the outskirts of Toronto. Work had been completed in the Greater London area.

The program for the fiscal year 1952 provided for a total of 225,425, kilowatts of 25-cycle load being changed over to 60 cycles.

In the City of Windsor the changeover of 37,000 kilowatts was scheduled for 1952 and the balance of some 14,000 kilowatts January to July 31, 1953.

Plans called for completion of the work in the Stratford area by July 31 this year.

"In the Greater Toronto area," reported Mr. Leeming, "we are proceeding west from Swansea along the lakefront to and including Trafalgar Township. This work is scheduled to be completed in June of this year, following which operations will be transferred to North York Township."

In addition, the Frequency Standardization Division was taking care of approximately 900 customers per month who move from a 25-cycle area into a 60-cycle area in the Southern Ontario System. This number of customer moves per month was expected to increase for the next few years as the junction between the 25- and 60-cycle systems was extended.

An average of some 6,500 clocks and fans were being dealt with each month. The Meter Conversion Shop had, to date, converted some 84,000 meters, with a considerable saving to the municipalities. Total savings which would be effected for the entire program by newly-developed methods of changeover were estimated in excess of $3,500,000.

Dual Frequency Equipment

A great deal of work had been done and was continuing, with the co-operation of various electrical manufacturers, in the development of dual-frequency equipment.

To December 31 last year, 251,397 dual-frequency items had been placed on the market, including 16,368 motors; 18,635 ignition transformers and 214,000 fluorescent light ballasts, and tests were being made on prototype dual-frequency refrigerators.

The manufacture and use of dual-frequency equipment in lieu of 25-cycle equipment, Mr. Leeming pointed out, was being encouraged because it represented a large saving to the public. The savings to date could be conservatively estimated at $1,500,000.—*Harry M. Blake.*

Classified Ads

FOR SALE

Five—Ferranti Transformers 150 Kva, 40°C. Rise, 1 phase, 25 cycles, 26400/13200 H.T. volts, 2300/575 L.T. Volts, 5.56% Impedance on 26400. 253 Gals. oil Type E, Weight of core and coils 2900 lbs., Total weight with oil 6600 lbs. Serial numbers 5542, 5926, 6543, 5927, 5928. (Indoor Type). Inquiries should be forwarded to — **Public Utilities Commission, c/o C. F. Moses, Manager, Mitchell, Ontario.**

Greater Interest In Aerial Cable

CHANGES in cable design, permitted by materials now commercially available, together with innovations in methods of assembly and installation, had increased the scope of aerial cable, and therefore, interest in its use, G. H. Gallimore, Phillips Electrical Works Ltd., Brockville, told A.M.E.U. delegates at their recent convention in Toronto.

Possibly the greatest recent interest had been manifested in the application of one or more single conductor rubber-insulated, neoprene-sheathed cables assembled to a copperweld or similar messenger, thus forming a self-supporting cable unit, he stated.

"Aerial cable of this type", pointed out Mr. Gallimore, "provides a distribution medium which fills a gap between open wire lines and underground cable. It is of particular interest as a means of distribution through parkways and residential areas where line appearance is important, extensive trimming of shade trees is not acceptable, and yet the greater cost of underground cable may not be economically feasible".

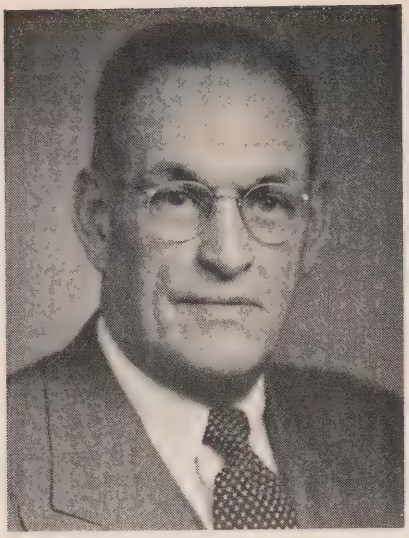
Mr. Gallimore suggested that a common application was a three-phase 4-kv primary line, although it had been employed also for voltages up to 15 kv.

Other advantages of aerial cable compared with open wire lines included: better line voltage regulation, due to the inherent lower reactance of conductors which are in close proximity; greater safety and reliability of service under storm conditions; more direct routing of primary lines, and reduction of pole congestion.

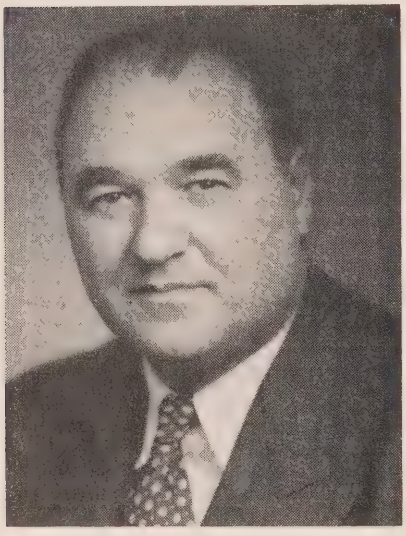
The speaker also discussed cable design; pre-assembled versus field assembled cable; splices, taps and terminations; circuit protection; installation methods of pre-assembled cable and field assembled cable.

Mr. Gallimore emphasized that a more detailed consideration of cable design, hardware and installation problems should be undertaken for any particular installation, and added "assistance in that connection is readily obtainable".

Toronto Hydro Appointments



H. B. LITTLE



HARRY HYDE



D. G. MOFFITT

SEVERAL new engineering and administrative appointments have been announced by Toronto Hydro-Electric Commissioners.

Succeeding Carl E. Schwenger, former Chief Engineer who died recently, is H. B. Little, P. Eng., previously Assistant Chief Engineer, while Harry Hyde, P. Eng., will move to the Assistant Chief Engineer's position from the post of Engineer, Distribution Planning and Design.

Additional duties with the local commission will be assumed by Secretary D. G. Moffitt in his new position of Director of Public Relations. He was appointed Secretary in May, 1951.

Other staff changes include the appointment of L. P. Forbare, P. Eng., as Engineer, Distribution Planning and Design, and M. R. Denman as Manager, Stores Department, succeeding the late W. A. Macivor, who died in November, 1951.

H. B. Little, P. Eng., Chief Engineer

Educated in London, Ontario, Mr. Little entered the Faculty of Applied Science, University of Toronto, in 1912. Following overseas service with the Royal Field Artillery in World War I, he returned to university and graduated with the degree of B.A.Sc. in 1920. He joined Toronto Hydro during that year and was employed in the Station Construction Department and Executive Department. He was appointed Engineer of Station Operations in 1942 and held this position until his appointment as Assistant Chief Engineer in May, 1951.

Harry Hyde, P. Eng., Assistant Chief Engineer

After graduation from the University of Toronto in 1926 as B.A. Sc. in Electrical Engineering, Mr. Hyde joined the Standards Section of Toronto Hydro's Distribution Department. He was assigned to the development of the low voltage network, and subsequently worked on 4-kv network and general distribution engineering. Following four and a half years' service with the R.C.E. during World War II, Mr. Hyde rejoined the Toronto Hydro System and was later placed in charge of the Distribution Planning Section. He remained in this capacity until his appointment, in May of last year, to Engineer, Distribution Planning and Design.

D. G. Moffitt, P. Eng., Secretary and Director of Public Relations

Attending universities in Adelaide, S. Australia; Manchester, England; Pittsburgh, Pa., U.S.A., and in Toronto, Mr. Moffitt started his early career as Engineer for the Municipal Tramways Trust in Adelaide, S. Australia. After active service with the Australian Forces in the first World War, he joined British Westinghouse, Manchester, England, as Draftsman and Electrical Tester. In 1918, he moved to the United States and was appointed Erecting Engineer for American Westinghouse in Pittsburgh, Pa. He came to Toronto in 1920 and joined the local system as Electrical Engineer — Station Construction Department. He was appointed Assistant Executive, General Manager's Office, in 1923 and held this post until 1940, when he was loaned to the Anglo-French Purchasing Board in New York as Secretary. He was later loaned to the British Air Commission, Washington, as Manager of the Production Department and was subsequently appointed Chief Co-ordinator of Aircraft Standards. He returned to Toronto Hydro in 1946 and, in 1951, was appointed Secretary to the Toronto Electric Commissioners.

L. P. Forbare, P. Eng., Engineer— Distribution Planning and Design

Educated in Toronto, Mr. Forbare started with the Toronto Hydro-Electric System in 1916 in the Distribution Department. He has been engaged in recent years in the section responsible for the preparation of plans to provide the capacity required for increased system loads, with particular emphasis on underground construction. In 1930, Mr. Forbare supervised the installation of a new Police Signal System in Toronto and also was associated with the construction of the Welland Chemical Works, near Niagara Falls, in 1940. Mr

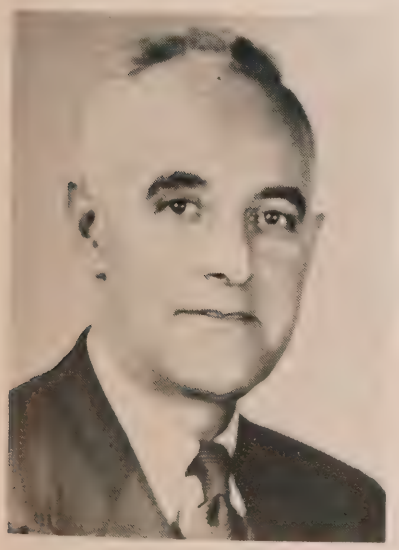


L. P. FORBARE

Forbare assisted Mr. Hyde, former Engineer—Distribution Planning and Design, since the formation of this department in 1951.

M. R. Denman, Manager, Stores Department

Born in Lindsay and educated in Toronto, Mr. Denman joined the local system in 1923 after seven years' service with the old Toronto and Niagara Power Company. He has been associated with the various stores sections since he joined the system, being appointed Assistant Supervisor, assisting the late W. A. Macivor, whom he now succeeds.



M. R. DENMAN

Mutual Trust

Speaker Cites Friendship of Canada and U.S.A. as Example of Good International Relations

A MOVING address by the Hon. Gay H. Brown, former Justice of the Supreme Court, State of New York, highlighted the joint O.M.E.A.—A.M.E.U. banquet in the Royal York's Concert Hall during this year's convention.

Keynote of his address was an appeal to each person to examine himself in the light of other peoples' opinions.

"A portrait is painted by everyone—a portrait that mirrors our life and actions," he stated.

The speaker then told the dramatic story of a little girl who was told by her parents that her marks in school were not up to par. They continually inferred that she was not very bright.

"And little Mary came to believe her parents. They had painted a portrait of herself and she began to live in the shadow of that portrait."

Mr. Brown urged his listeners to paint good portraits, of health, and of virtue. "We can enjoy a better life by painting the right portrait," he declared.

Turning to international relations, the speaker, in describing the friendship of the people of his country and the people of Canada, deplored the warlike attitude and constant friction between nations.

"What a wonderful world this would be," he exclaimed, "if all the nations and all men could live as your people and my people live, in harmony, in friendship, with an undefended border and mutual trust."

The thunderous ovation he received from the guests was tribute enough to his oratory. But an expression of warm appreciation was extended to the guest speaker by J. Clark Keith on behalf of the O.M.E.A. and A.M.E.U. — *W. B. Prentice.*

POWER OF ELECTION

(Continued from page 16)

and not in any event to exceed two years."

"That a uniform method of costing for repairs and construction on other than the properties of the municipalities be established by Ontario Hydro for the municipalities."

"That all meter readers in the province wear the same type of uniform."

"That the O.M.E.A. request the Legislative Assembly of Ontario to amend the Power Act fixing the term of office of the H.E.P.C. Commissioners, providing that each commissioner be appointed at a different time and that at least one of the number have engineering experience."

At the conclusion of the meeting resolutions of appreciation were passed for the help and co-operation of the Royal York Hotel, the other Toronto hotels which assisted in accommodating the delegates, the press and the Entertainment Committee. A separate resolution of appreciation was devoted to the co-operation and coverage given to the association's activities by *Hydro News.*

Sympathy and "Loving Loyalty"

DURING his address to the Ontario Municipal Electric Association at their annual convention in Toronto, President D. P. Cliff expressed the sorrow of the association at the passing of King George VI, and voiced the heartfelt sympathy of all its members for the Queen Mother in her bereavement. On behalf of the O.M.E.A. he also renewed its allegiance to the Crown.

Later, Dr. Charlotte Whitton, Mayor of Ottawa, suggested that these sentiments should be conveyed in cabled messages to Queen Elizabeth and the Queen Mother. The cable to the Queen Mother voiced "humble gratitude" for the late Monarch's life of "gallant and selfless service to his people" and a "proud memory" of his reign. The cable to Queen Elizabeth pledged the "allegiance and loving loyalty" of the association.

Efficient Means

J. A. I. Kidd Discusses Lightning Protection For Distribution Systems During A. M. E. U. Session

"EFFICIENT means are available today for reducing the otherwise disastrous effects of lightning on distribution systems," J. A. I. Kidd, Canadian General Electric Company told A.M.E.U. delegates in discussing lightning protection during the recent convention in Toronto.

Many theories existed on how a thunder cloud became charged to its various potentials. During a storm, clouds contained positive and negative charges. The earth's surface directly underneath the cloud, at the same time, had a charge opposite to that of the lower part of the cloud.

When the voltage gradient in the cloud, or between the earth and cloud, became high enough, it flashed over, and lightning resulted.

"We are mainly interested in this discharge from cloud to earth, which starts as a breakdown from the cloud followed by a heavy current flow from earth to cloud. The flow of current through the ionized path neutralizes the potential gradient and the discharge is stopped."

The speaker explained that what might appear to be a single discharge was often made up of several discharges in rapid succession. As an average there were approximately three discharges to a stroke, but as a maximum total, 42 individual successive discharges had been observed over a period of 1.53 seconds, with intervals between the discharges of from .003 to 0.6 seconds.

"The earth's potential" stated Mr. Kidd, "under the cloud is drawn up to the top of buildings, towers or distribution lines, and thus they present a likely place for discharge. In the case of lightning striking, or inducing a voltage on a distribution line, two impulse waves travel along the line in opposite directions from this point."

The speaker then outlined in detail, through explanatory charts, the methods of lightning protection. The main objective in lightning protection was to reduce the crest of the impulse before it had a chance to overstress the electrical equipment it was guarding, prevent fuses blowing and protect the secondary circuit.

"A lightning arrester" explained Mr. Kidd, "consists normally of a gap and some form of resistance in series with the gap which is capable of interrupting the power-follow current. The function of the gap is to allow the impulse voltage to spill over when it reaches its flash-over level."

In the valve-type arrester, the resistance was made up of a pellet column which had the very desirable characteristics of low resistance when the current was large, and high resistance when the current was low. On flash-over of the gap the heavy discharge current through the arrester greatly reduced its ohmic resistance. In this manner, the IR drop across the lightning arrester was then held to a low value. As soon as the current began to drop off the pellet column increased in resistance to seal up the path against the flow of power currents.

Arresters

The speaker also discussed the application of the arrester; arrester connections and the ground of lightning arresters which, he emphasized, was an extremely important point. In this latter connection, he pointed out that a lightning arrester was no better than the ground connection by which it was earthed and arresters could not properly protect electrical equipment when installed with unreliable or high resistant earth connection.

In his concluding remarks Mr. Kidd stated that continuity of service nowadays was more the rule than the exception. Interruptions became more and more intolerable as high grade service was expected. The modern lightning arrester as a tool in the utilities' hands had done much to prevent fuse blowing and equipment breakdown. Adequate lightning protection was part of that coordinated plan which allowed for the most economic distribution of power, assuring good customer relations.

Operating Analysis

METHODS of preparing data for yearly operating analysis of a utility system were discussed by Ray Pfaff, Manager, St. Catharines Public Utilities, during the session on Accounting and Office Administration which was under the chairmanship of J. E. Cook, Windsor Utilities Commission.

Mr. Pfaff told how information on consumption of domestic light, power, street lighting, commercial light, and flat rate water heaters was compiled on H.E.P.C. sheets and percentages of the total worked out for each. Typical calculations, made in St. Catharines, were used as examples by the speaker.

He also explained the manner in which the "wire mileage" of the distribution system was used as a basis of subdividing certain capital costs of the distribution system, and also of truck operation and maintenance.

Assets, in terms of lands and buildings, transmission system, substation equipment, distribution system overhead, distribution system underground, meters and devices, line transformers, street lighting should be totalled and balanced and percentages worked out for each from the total. Operation and maintenance accounts, transmission system, substation operation and maintenance, distribution system operation and maintenance, line transformer maintenance, meter maintenance, consumers' premises expenses (chargeable to lighting in many cases) fixed charges, salaries and expenses, promotion of business and undistributed expenses, truck operation and maintenance and power purchased should be handled in a similar manner.

With this work done, Ontario Hydro could proceed with its annual operating analysis. — *Lois Martin.*

NAMED MANAGER AT ARNPRIOR

M. H. Howat has been appointed Manager and Secretary of the Arnprior Hydro-Electric Commission. In addition, he has been named as acting Manager of the Arnprior Rural Operating Area by Ontario Hydro.

Replacing W. P. J. Derham who recently retired, Mr. Howat moved to Arnprior from the Commission's Head office in 1948. He has been with the Commission since 1931, and was appointed assistant to Mr. Derham early in 1949.

HYDRO Home Forum



by Edithemma Dighton
Hydro Home Economist

The belief that woman's only place was in the home disappeared when the old kitchen cabinet was taken out of the kitchen, Yet, the chief responsibility for the home and, for the welfare and safety of the family, still rests with women, whether they are housewives on a full or part-time basis.

* * *

Every home could be made safer if care was taken to eliminate hazards. The "going over" that a house gets during the housecleaning season should reveal the repairs and changes necessary to make the home safer for all the family.

* * *

Most of the safety "corrections" are those not associated with electricity such as striking matches away from the body; cleaning up spilled water or grease at once; keeping steps clear of toys and loose articles; storing medicines in a locked cabinet, and opening the gas oven before lighting it.

* * *

But there are a few electrical precautions, too, such as: (1) Are frayed electric cords discarded? (2) Do you dry your hands before touching electric fixtures? (3) Are all fuses (except service and oven) of 15 amperes? (4) Has the wiring in an old home been inspected? (5) Are there electric switches instead of pull chains on at least one light in every room? (6) Should an additional light be provided in a dark hallway? (7) Is there an asbestos stand for the hand iron?

* * *

First time out for clothes on the line this spring may be a sad experience if the clothes line has not been thoroughly cleaned with sudsy water. The clothes pins also may need washing!

* * *

An old felt hat may be cut into small pieces and glued to the base of such objects as lamp bases, vases and tea pot tiles. This will prevent scratched surfaces.

* * *

Chewing gum may be removed from most things, including hair, with the white of an egg.

* * *

A good idea: Vacuum scatter rugs crosswise to prevent sliding. Better still, small rugs may be placed on a bigger rug to vacuum.

* * *

That stale odor in the lunch pail may be eliminated by scalding and airing the tin at night. An occasional sunning also helps to keep them fresh.

* * *

Make a lemon sauce for baked apples at this time of year. During the winter, apples are inclined to lose their flavor, which can be "stepped up" by a tart, thickened sauce.

* * *

Rolls, hot from the oven, are a delightful addition to a luncheon menu. When you make your own yeast mixture, vary the flavoring in part of the dough by sprinkling with either poppy or cardamom seed.

* * *

Kitchen scissors are both a time and work-saving convenience. Use them often: To mince parsley, cut up candied fruits, dice the cold chicken, to snip off the overlapping edge of pie dough, to cut uniform pieces of yeast dough before shaping into rolls, etc.

* * *

Dip scissors in a cup of hot water occasionally when you cut up dates and prunes.

* * *

When making a boiled icing, add a teaspoon of vinegar or a quarter-teaspoon of cream of tartar to boiling syrup. This prevents granulation.

Special spring dessert: Prepare half packages of lemon, lime and cherry flavored gelatine and pour into slightly greased egg cups. Press a maraschino cherry into each egg cup when the mixture is partly-jellied. Chill until firm: turn out on a nest of cocoanut. Pour a cool, soft custard over all. Serve with sugar cookies.

* * *

Delicately-tinted cocoanut will add charm to any cake. To tint, place 1 teaspoon milk and a few drops of vegetable coloring in a small bowl. Then add 1½ cups shredded cocoanut and mix with fork until cocoanut is evenly-tinted.

* * *

Chocolate decorations on a cake frosting are pretty as well as good to eat. To use unsweetened chocolate, melt 1 square with 1 teaspoon butter and blend. Make chocolate ribbons on top of the frosting by dribbling chocolate from the tip of a silver teaspoon.

* * *

It's a nuisance to keep a soft clean cloth for wiping meats, fish and poultry. Why not use a dampened paper towel for the job?

* * *

Then, too, wipe around the tops of catsup and salad dressing jars with a dampened paper towel. It keeps them clean and free from dried-out crust.

* * *

Some like it hot! Cold meats such as liver sausage are heated readily by dipping thick slices in flour then frying 5 minutes on medium heat.

* * *

Attractive bacon curls: Fry slices of bacon slowly. When partially-cooked, insert tip of a fork in end of bacon strip: turn tip of a fork over and over, wrapping slice around it. Insert toothpick through the curl and finish cooking at edge of the pan.



Metermen Discuss Formation Main Coun

EXECUTIVE representatives from the five Ontario metermen's associations met in Toronto recently to discuss the formation of a main council.

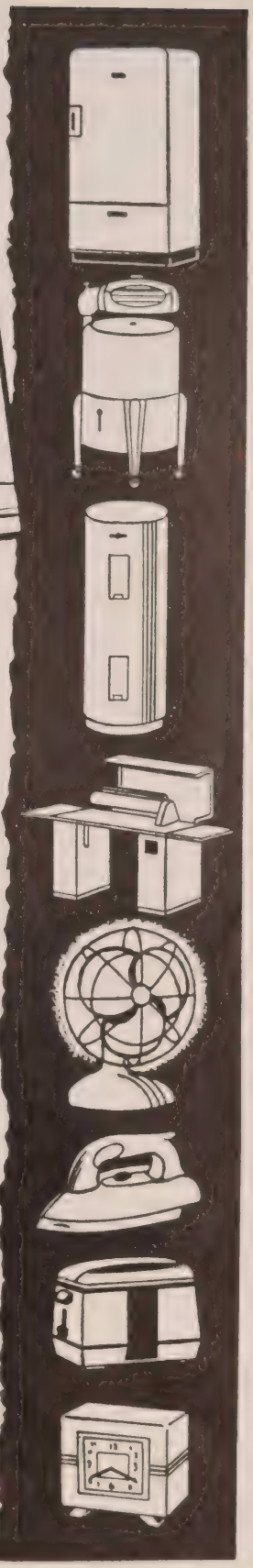
It was decided at the meeting that a council of the associations would be more effective in promoting their main objectives than the individual efforts of each association. The council, it was agreed, would co-ordinate the schedules for spring and fall meetings of the associations, and would also arrange for various speakers. It was agreed further, that the council would be in a position to work with the Canadian Standards Association and the Canadian Electrical Association for improvements in metering practice. Each association will ask for approval of this plan at their spring meetings, and if this is obtained, a meeting will be held in June to draft a constitution and appoint officers. Pictured above are, left to right—G. E. McClymont, Chatham, P.U.C.; F. H. McColl, H.E.P.C.; C. E. Maguire, Ottawa H.E.C.; Marcus Dilts, Welland H.E.C.; Don Redmond, Mimico P.U.C.; S. B. Upper, H.E.P.C.; Al. Christie, North York H.E.C.; J. M. Vanderleck, H.E.P.C.; Earl Thornton, Ingersoll, P.U.C.; Sam Murchie, Brantford Twp. H.E.C.; N. J. Lake, H.E.P.C.; and Norm. Redsell, Etobicoke H.E.C.

Sambo Gets 60-Cycle Service

FOUR years ago, a family of cats started a parade through the broken cellar window of a home in the Albion Park section of North York, and were the direct cause of one of the most unique 60-cycle changeover jobs yet carried out since Hydro's frequency standardization program began. Changeover personnel working in the area converted a small motor providing "doorman" service in the home for the sole survivor of the family, a big, black puss named "Sambo", shown making his entrance via the unusual contraption. When the parade first started, the cats' owner liked the idea of admitting his pets by the semi-subterranean route, and hung an ordinary hinged "door" over the broken pane. However, the cats could get in, but not out. Just over a year ago, when only Sambo was left, the owner had an inspiration. He installed a small motor just above the door, and connected the two with a pulley and chain. The weight of the cat on a treadle beneath the door makes an electrical contact. This starts the motor and opens the door for Sambo.







WIRE WISELY - LIVE WELL

Electricity, properly used, brings modern service and convenience to your fingertips. It adds to the ease and enjoyment of living, it places a host of "electrical servants" at your beck and call twenty-four hours of the day. But the extent to which you can use these electrical servants depends upon how wisely your home is wired.

Inadequate wiring is inefficient . . . even dangerous. *Adequate* wiring lets you operate your lighting and appliances at peak efficiency at all times. What is adequate wiring? Briefly, it means the correct size of three wire service to the house, the proper number of circuits and correct size of wire within the home, together with sufficient outlets in each room to take care of your electrical requirements both today and in the future.



THE FUSE

When too great a load is placed on a circuit, or when a "short" occurs, the fuse "burns out" and cuts off the power. This is your protection. BE SURE TO REPLACE A FUSE WITH THE CORRECT SIZE.

Thanks to "power at cost" you can economically use all these electrical servants in your home—*if* you have provided for them. Be sure, whether you plan to build or remodel, that adequate wiring has top priority on your check list of things you need. We will be glad to help you solve your wiring problems.

The Hydro-Electric Power Commission of Ontario

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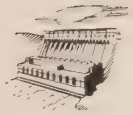

NATO TO GET A

ONTARIO HYDRO NEWS



It's Spring Again!

VOLUME 39 APRIL, 1952 NUMBER 4



ONTARIO HYDRO News



APRIL, 1952

VOLUME 39 NUMBER 4

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THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 University Avenue, Toronto

The Impetus of Power

WHY has Canada become one of the world's great industrial nations?

Herbert H. Rogge, President of Canadian Westinghouse Company Limited, addressing the Hamilton Advertising and Sales Club recently, answered that question most effectively.

Highlight of Mr. Rogge's address was his disclosure that although its employed men and women total only 5,200,000, the Dominion has reached its present pre-eminent industrial position because electric power supplies productive energy equal to that of 100 million people working night and day.

Development of low-cost hydro-electric power in Canada goes back only about 40 years. Before that time, income and employment came mainly from agriculture. Today, with harnessing of other sources of hydro-electric power still forging ahead, manufacturing is responsible for 50 per cent while agriculture accounts for only 17 per cent of the net value of production.

This amazing transformation in Canada's economy within the past four decades or more, was graphically illustrated by Mr. Rogge who cited the expansion in the electrical equipment manufacturing industry as an example of the overall growth that has taken place.

Firms represented by the industry have almost doubled since 1940 and the number of people employed increased from 25,000 to 60,000 in the same period. Major consumer products are retailed through some 6,500 outlets while other outlets handle smaller appliances, lamps and fixtures, providing employment, all told, for about 40,000 more Canadians.

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COVER PHOTOS

VISITING Northern Ontario a few months ago, Hydro Photographer Robert Armstrong was exploring the Wahnapitae River when he came upon the beautiful scene depicted on this month's front cover. We wish to thank "Ted" Johnston for his impression of the Otto Holden Station on the back cover.

NOTE TO EDITORS: Material published in Hydro News may be reprinted without permission. Photos or stereos will be forwarded on request.



One of the 230,000-volt switching structures at Hydro's Essa Transformer Station near Barrie.

—— Photo by Robert Armstrong.

Tour New Niagara Projec



HYDRO'S GUESTS VIEW NIAGARA CATARACTS



MEMBERS of the Ontario Legislature and a large group of civic officials recently had the opportunity of witnessing, at first hand, several phases of Ontario Hydro's expanding operations.

Highlight of the conducted tour was, of course, a visit to the Commission's largest power project—the 700,000-horsepower Sir Adam Beck Generating Station No. 2 on the Niagara River.

But, with the guests aboard four large motor coaches, the inspection visit was certainly a mobile one, focussing attention on such important Hydro properties as the Research Division's Laboratory on Strachan Avenue in Toronto; the A. W. Manby Transformer Station and Service Centre at Islington; the Burlington Transformer Station near Hamilton, in addition to the construction project at Niagara.

Hydro Chairman Robert H. Saunders keynoted the tour in his greetings to the guests when he expressed his "firm belief" that the people "should know at all times what is going on, Hydro-wise, across the province."

Enroute from Toronto where the tour originated, the party stopped momentarily at the Strachan Avenue laboratory where Chairman Saunders and members of the

(Continued on page 4)



BELOW: Luncheon at one of the project cafeterias was a welcome highlight of the inspection tour. Left to right — Hon. George H. Challies, Hydro's First Vice-Chairman; John W. Hanna, M.L.A. Huron-Bruce; Alfred Cowling, M.L.A., Toronto.





BELOW: A helping hand seems to be the task of C. H. Moors, Chairman of the Fort William Hydro-Electric Commission, as he chats with L. C. W. Spratt of the Packard Electric Company.



ABOVE: The City of Niagara Falls, Ontario, is represented in this group by (left to right) W. S. Orr, City Manager, E. M. Hawkins, Mayor, and W. L. Houck, M.L.A., Niagara Falls. F. A. Sutton and A. C. Capman of the C.G.E. Company are their table companions.



"Food for thought" seems to describe this photo of Legislature members enjoying luncheon. L. to r. — C. E. Janes, Lambton East; Thomas Pryde, Huron; T. L. Patrick, Middlesex North, and Hon. Arthur Welsh, Provincial Secretary.





ABOVE: Civic officials from border municipalities in the United States were also invited to see Ontario Hydro at work on its new Sir Adam Beck No. 2 project at Niagara. Ernest Mirrington, (right), Mayor of Niagara Falls, New York, was noted chatting with Commission Chairman Robert H. Saunders, and Dr. Otto Holden, Hydro's Assistant General Manager—Engineering. Dr. Holden, in addition to giving an introductory talk on the project during the luncheon recess, also described salient features of the development at each stop.



FROM AN observation point high above the Niagara River gorge, the visitors were able to view progress on penstock excavation at the site of the new plant. They were also given an opportunity to inspect forebay excavation. The value of hydraulic model studies was illustrated at this point when the guests were told that substantial savings were effected through tests conducted to determine the best method of excavating portions of the forebay and open-cut canal.



(Continued from page 2)

Public Relations staff traced the growth of this important establishment and described the vital role it is playing today.

Attention of the party was directed also to the Research Division's electronic, structural and mechanical studies and developments which have won Ontario Hydro international acclaim and several honors and awards for members of the Research Division staff. It was pointed out that the work of this important division is carried out in close co-operation with the National Research Institute, the Canadian Standards Association, and the University of Toronto.

Operational "Heart"

Termed the operational "heart" of Hydro's big frequency standardization program, the A. W. Manby Transformer Station and Service Centre, was the second Commission property visited during the tour.

Here the visitors learned that, while much of the "behind-the-scenes" planning and engineering of the program took place at the main office of the Frequency Standardization Division at 49 Bathurst Street in Toronto, 12 of the buildings at the service centre are used by Hydro and its contractor for offices and warehouses, as well as reclamation, meter changeover, and motor rewind shops.

In the F.S.D. Engineering Section at the service centre, changeover techniques are worked out and established. This section is engaged in a continuing study of more economical and efficient standardization practices. The party was informed that, in meter conversion alone, a new



method had been introduced which would effect eventual savings of some $3,500,000.

Hydro's Central Garage, also located at the Islington site, is responsible for the servicing of the Commission's fleet of 2,765 motor vehicles, as well as 1,013 trailers.

The visitors also heard some interesting facts about the function of the adjacent transformer station. The station was placed in service in 1948 to feed 25-cycle power from Eastern Ontario sources into the Toronto area.

Burlington Transformer Station

"A funnel for high voltage power from Ottawa River Generating plants," was the description accorded one of Hydro's largest transformer stations at Burlington where the party also paid a short visit on their way to Niagara Falls.

This important plant, it was pointed out, was placed in service in 1941 and was designed as a terminal for 230,000-volt lines extending from the Chats Falls Generating Station on the Ottawa River and other stations in Quebec which supply power to Hydro on a contract basis.

Since 1950, the Burlington station has been transmitting power to the growing 60-cycle system as the Commission's frequency standardization program has gained momentum in the area served by the station.

Niagara Project

Arriving at Niagara Falls, the party was joined by other guests including several municipal representatives. At this point, the visitors were conducted to one of the Sir Adam Beck project cafeterias where luncheon was one of the highlights of the tour of inspection at this all-important building.

Then followed introduction of Commission representatives, including project personnel. Preceding the tour of the

(Continued on page 11)





ABOVE: For Rex H. Martindale, left, Secretary-Manager of Sudbury Hydro-Electric Commission and 1952 A.M.E.U. President, the tour had more than ordinary significance for he also was celebrating his 50th anniversary with the Nickel City Commission. On behalf of Ontario Hydro, Mayor Marjorie Hamilton of Barrie, member of the Ontario Hydro-Electric Advisory Council, presented a leather handbag to the veteran manager for Mrs. Martindale who was not present at the tour. Chairman Saunders and Richard L. Hearn, General Manager and Chief Engineer, were among Mr. Martindale's Hydro colleagues who offered hearty congratulations.



PRELUDE TO the tour of the project was a brief but enjoyable reception. The group includes, l. to r.—Ellis Morningstar, M.L.A. Welland; Dr. Otto Holden, Asst. Gen. Mgr. —Engineering, Ont. Hydro; Richard L. Hearn, General Manager and Chief Engineer, Ont. Hydro; W. L. Houck, M.L.A. Niagara Falls. Hon. G. A. Welsh, Provincial Secretary; D. J. Thomas, Mayor of Welland; Mrs. Marjorie Hamilton, Mayor of Barrie; Chairman Robert H. Saunders; E. M. Hawkins, Mayor, Niagara Falls, Ont.; Ernest Mirrington, Mayor, Niagara Falls, N.Y.; A. W. Manby, Hydro's Asst. Gen. Mgr.—Administration.

Down by the OLD ST. LAWRENCE



by Duncan McLeod

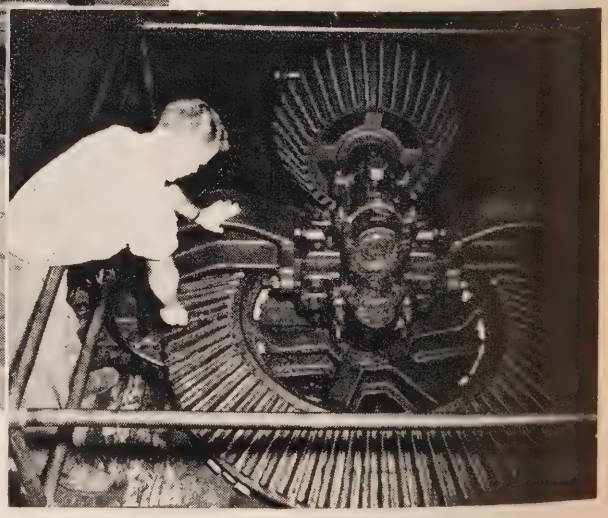
THE St. Lawrence River as a source of power is not a new subject for citizens of Morrisburg.

Power customers in this Eastern Ontario municipality (home-town of Ontario Hydro's First Vice-Chairman, Hon. George H. Challies) have been using St. Lawrence-generated electricity for over half a century.

Back in 1901, the Morrisburg Power Station No. 1 was built to serve the growing community. For 30 years, the station supplied the town's entire electrical requirements. In 1931, however, it was found that the voltage was dropping from 110 to 75 volts during periods of peak demand. In 1933, the local commission purchased a 400-horsepower diesel generator which was operated until 1938. In January that year, the town signed a cost contract with Ontario Hydro. As the station produced power at 2,300 volts, it was necessary to instal switching facilities to step down the 44,000-volt power supplied by the Ontario Commission, so that electricity from both sources could be distributed in parallel.

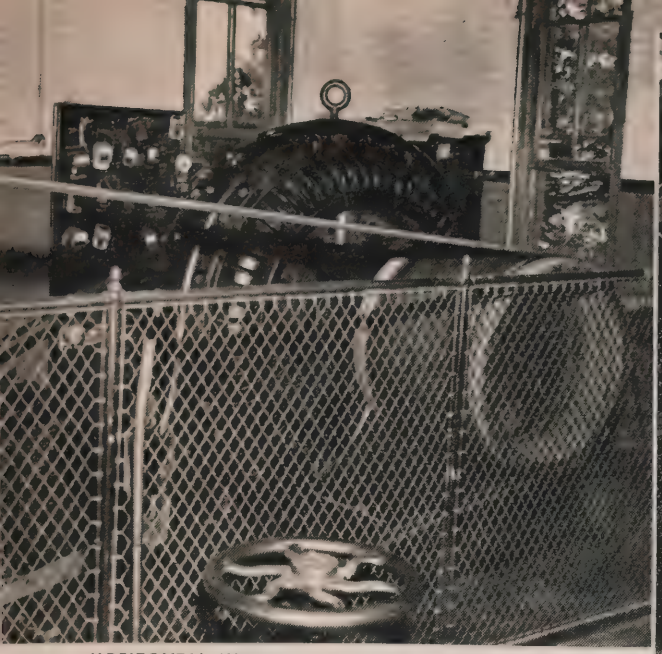
Part-Time Operation

Although it might not be considered

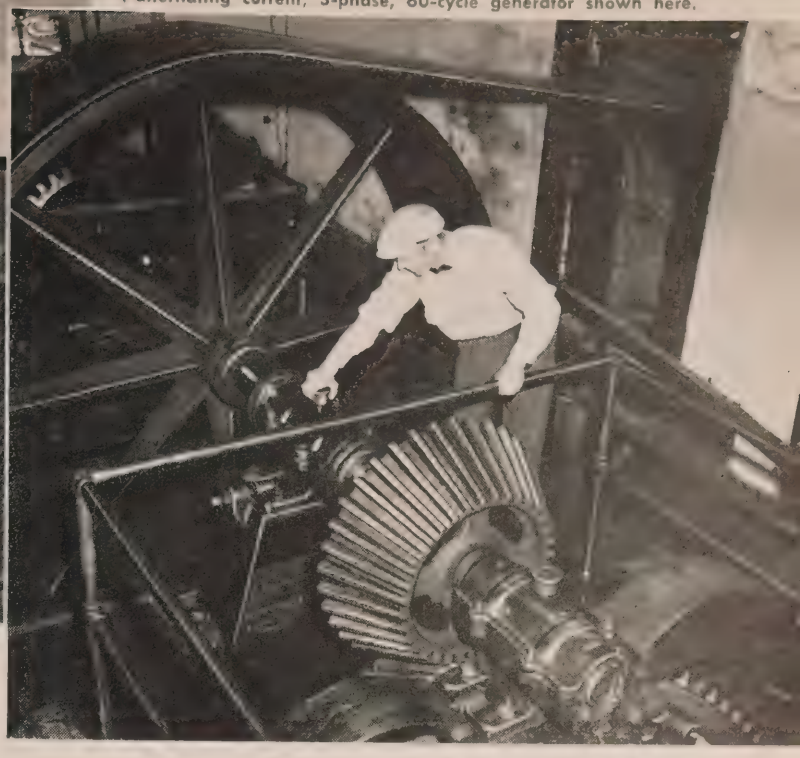


ABOVE—Exterior view of Morrisburg Generating Station built in 1901 which still serves town during peak-hour demand. Right—Unique feature of plant is wooden teeth in crown gears.

alternating current, 3-phase, 60-cycle generator shown here.



HORIZONTAL SHAFT is connected to a fly-wheel, 8 feet in diameter, which drives the plant's generator in photo above.



very efficient by modern standards, the old-time station, which was operated 24 hours a day until 1940, still produces power for Morrisburg customers during the peak load period from 11 a.m. to noon.

Hydro News had the opportunity of visiting this historic station recently, where Douglas Stitt, Superintendent of the Morrisburg Commission for the past 20 years, explained its "modus operandi."

Situated at the foot of the Williamsburg Canal (the navigable portion of the St. Lawrence River in the Morrisburg vicinity), the plant operates under an average head of nine feet. Principal equipment includes two Samson turbines and one alternating current, 3-phase, 60-cycle generator.

Wooden Teeth

Most unique feature of this 200-kilowatt (265-horsepower) plant is the wooden teeth in the crown gears to reduce operational noise. As Mr. Stitt lifted the handle of the friction brake, the station's two turbines began to turn, revolving the two large crown gears with the wooden teeth which meshed with the wooden teeth in the smaller crown gears on a horizontal shaft connected to a fly-wheel, eight feet in diameter. The fly-wheel is linked with the generator by a leather belt.

The Morrisburg Power Station is typical of numerous small generating stations built by Ontario communities during the latter part of the 19th century and the early years of the present one, Today most of these tiny stations have disappeared and the few remaining are, in the majority of cases, operated on a part-time basis.

Plant Being Dismantled

Morrisburg Station No. 2, on the outer bank of the Williamsburg canal, upstream from the existing plant referred to above, is now being dismantled. Placed in service in 1906 to supply power to a local industry, it was operated intermittently for about three years as the factory moved to another location in Ontario.

Even in those early days of hydraulic generation, the station was considered to be of unique design. The turbines, with horizontal shafts, were connected directly to grooved pulleys and their power transmitted to the generator by a rope drive. Although plans for the station called for a total output of about 1,100 horsepower it was found to be capable of producing only 500 horsepower under ideal conditions.

Today this small plant is an empty shell and its antiquated equipment lies in rusty heaps on the bank of the canal waiting to be hauled away for scrap.

As these early stations gradually fade from the scene, many recall with gratitude the important contribution they made to Ontario's early growth—a growth which is continuing at an ever-increasing pace today with the impetus provided by their mammoth successors.



MORRISBURG Power Station No. 2 was placed in service in 1906 but has been dismantled.

For Half a Century a Small Generating Station Has Been Supplying Power for Customers at Morrisburg



ABOVE: Reeve Alfred Jennings welcomes guests at ceremony which marked Bronte's official entry into the Hydro family as a cost-contract municipality. Seated, left to right, are E. G. Maddock, Consumer Service Engineer, Toronto Region; Rev. A. T. Dalby; E. R. Lawler, Manager, Toronto Region; W. Ross Strike, Q.C., Second Vice-Chairman, Ontario Hydro; James A. Blay, Hydro's Director of Public Relations; Charles Livingstone and Thomas Milward, Bronte.

ronte Joins the Family

ANOTHER member joined the Hydro family recently when the Village of Bronte was welcomed officially as the 315th municipal electrical utility purchasing power under a cost contract.

At an impressive inaugural ceremony, held in Bronte Public School, the local commission's customers, together with municipal and Ontario Hydro representatives, celebrated this important milestone in the life of the village.

Congratulating Bronte citizens on their decision to become a cost municipality, W. Ross Strike, Q.C., Second Vice-Chairman of Ontario Hydro, guest speaker, traced the growth of the Commission's operations. In 1907, he said, the Commission signed a contract for the purchase of up to 100,000 horsepower—to be



supplied by a Niagara River generating plant.

"That was considered to be a fantastic amount of power in those days," Mr. Strike told his audience, "but it is interesting to note that we have 1,175 municipalities associated with us today, and in December, 1951, we generated and purchased a peak of almost 4,000,000 hp."

Capital Investment

Another indication of Hydro's progress, according to the speaker, was the Commission's total assets which now stood at well over $1 billion, while the municipal assets were estimated at close to $350 million.

Mr. Strike emphasized that Hydro had been able to keep in a strong position by maintaining a stable financial position with as little fluctuation in rates as pos-



ENJOYING THEIR job to the full, ladies of the Bronte Home and School Association provided a pleasant diversion by supplying refreshments. L. to r. — Mrs. William Sargant, Mrs. William Wilson, Mrs. R. A. Hopkins, Mrs. J. D. Burrow, Mrs. Gordon Gilroy and Mrs. Paddy Hughes.

sible. One of the main reasons the Commission and its associated municipalities had continued to prosper, he pointed out, was that all funds earned had been kept separate. By this method, he explained, the monies earned were ploughed back into system improvements, and were not authorized for expenditure on other municipal projects.

The other great factor in Hydro's success was the spirit of co-operation that existed between the municipalities and the Commission.

"Evidence of the interest in our great system is displayed clearly by the fact that representatives of organizations from many parts of the world have visited Ontario to study the Commission's operations," Mr. Strike declared.

Municipalities Commended

"We are indeed fortunate" he said, "to have men of integrity and character handling Hydro operations in our municipalities." Good municipal administration was the very cradle of successful provincial and federal government, he stated.

Mr. Strike assured the Bronte commissioners of Ontario Hydro's desire to co-operate closely with them.

"The doors of the regional offices are always open to the municipalities," he stated, "and the regional manager is only too willing to help the associated commissions in his region to give the best possible administration."

Officially welcoming the new cost-contract municipality into the Hydro group, Mr. Strike presented Bronte with framed pictures of Sir Adam Beck, Chairman Robert H. Saunders, and a view of Niagara Falls, for their Hydro offices.

He was introduced by E. R. Lawler, Manager of Ontario Hydro's Toronto Region, who also took the opportunity of congratulating Bronte Hydro customers on their entry into the ever-widening circle of cost municipalities.

Mr. Lawler assured the audience that all the resources of the Toronto Regional staff would be at the disposal of the local commission at any time.

Inaugural Ceremonies

Presiding during the program, Reeve

(Continued on page 14)



ABOVE: Section of the audience which attended the inaugural ceremonies in Bronte Public School. INSET: Pleasant notes were injected by the Walton Quartet which was heard in several selections. Left to right—John Wakely, Dick Ellison, Eric Coombes and Bill Milligan.



RIGHT: Presentation of framed pictures to the Bronte Commission was another feature of the inaugural ceremony. W. Ross Strike, Second Vice-Chairman of Ontario Hydro, is shown presenting a portrait of the late Sir Adam Beck to Reeve Alfred Jennings, Bronte.

Early Breakfast

Changeover Is Speedy, Painless

By BRUCE WEST.

Well, we finally got converted out our way during the weekend. And I'm here to tell you that it was the slickest and quickest operation of its kind since the days when Billy Sunday used to fetch 'em down the sawdust trail.

We'd been warned about this conversion for days and days, of course. First small notes and then bigger ones and finally notices with red printing on them. So, naturally, when C-Day actually arrived, everybody in our neighborhood was in a great old dither.

Inasmuch as most of us who live in 25-cycle areas are going to be faced with this experience some day, I'd like to assure one and all that the great electrical switchover to 60-cycle current is quite a painless matter.

In the early stages of the project, I'm told, the operation sometimes didn't work any too smoothly. But, boy, oh boy, are these crews organized now! Would that our particular household were organized as well.

My wife came galloping into the bedroom on C-day before 8 o'clock in the morning—which is virtually the middle of the night for us characters who work on morning newspapers.

"If you want anything to eat for breakfast, you'll have to make it snappy," said she. "The conversion crews will be here any minute. And you know what that's going to mean. No electricity. And with no electricity, there's no toast. Also no coffee and no boiled eggs—unless you want to take them out in the backyard and cook them over a camp fire."

Well, to tell you the truth, I haven't had breakfast at 8 o'clock in the morning for so long that I hardly know which end of the table to sit at. But the thought of not being able to have breakfast at that hour, even though I didn't want it, caused me to leap out of bed in a fine state of alarm.

Wandering over to the window in an early morning daze, I saw something that almost caused me to leap back into the hay again. As far as you could see, up and down our street, were red panel trucks pulled into every driveway. And from these red panel trucks were emerging serious-looking young men nattily decked out in white shop coats.

They moved in and out of our abode like polite shadows. Before one frozen smelt could be thawed they had changed the entire inner workings of our refrigerator. It was the same with the oil burner and the washing machine and the other electrical equipment upon which many of us have come to lean so heavily.

Around 11 o'clock my wife went over and switched on the toaster. The current was off.

"Aha!" she said, meaningly.

The Aha! however, had scarcely bounced once off the kitchen wall before the toaster was functioning again—this time on 60-cycle current. I didn't actually time it, but I shouldn't think the current was off in our house more than a minute and a half during the entire operation.

The courteous young men in the doctors' coats then bowed out of the place so smoothly that we hardly knew they'd been there. In the next 10 years or so scores of thousands of homes in the 25-cycle area will be changed over to 60-cycle. And if the job is done as efficiently as it was done at our place, no one will have anything to kick about.

Personally, I'd like to make a low, sweeping bow to Chairman Robert Saunders of the Ontario Hydro Commission and the Canadian Comstock Company, which is doing the actual conversion work. Any outfit that is so well organized that it can get me out of bed at 8 o'clock in the morning and then demonstrate that I could have slept in until noon without the slightest disturbance deserves an orchid any old day.

(Editor's Note: In a recent issue of the Toronto Globe and Mail, Bruce West, a well-known columnist, recorded his impressions of Hydro's frequency changeover operations in his own home. For the information of those who are to be changed over in the future, the article, in its entirety, is reproduced below.)

"..We Hardly Knew They'd Been There,"

says Toronto Globe and Mail Columnist of Hydro's Standardization crews

TOUR NIAGARA PROJECT

(Continued from page 5)

project, Dr. Otto Holden, Hydro's Assistant General Manager-Engineering, outlined briefly several of the construction features of the development.

Dr. Holden, using a chart of the area, pointed out that water diverted from the Upper Niagara River would be conveyed beneath the City of Niagara Falls by a 5½-mile tunnel. Re-emerging, it will empty into a 2½-mile canal which will convey the water to the forebay of the new plant.

The first stage of the new station will comprise seven units, the speaker stated, with provision for additions at a later date. The first stage is expected to be completed in 1955, while plans call for initial operation of four units in 1954.

It was also pointed out that certain remedial works would have to be carried out to ensure preservation of the scenic beauty of the falls. The object of these works would be to distribute the flow more evenly over the 2,600 foot crest of the Canadian Falls to minimize erosion. At present, approximately 65 percent of the flow over the Horseshoe Falls passes over the middle third of the cataract, Dr. Holden stated.

Conducted Tour

Inclement weather marred close inspection of some aspects of the development, but the party was still able to gain many impressions of the immensity of the new project.

The visitors started their tour at the site of the new generating station and witnessed progress on excavation for the penstocks and the forebay.

Moving on from this location they saw sections of the open cut canal, and also the access shafts which are being sunk at five points for excavation of the 5½-mile tunnel.

Arriving at Chippawa, the visitors examined the progress made on the intake for the new development.

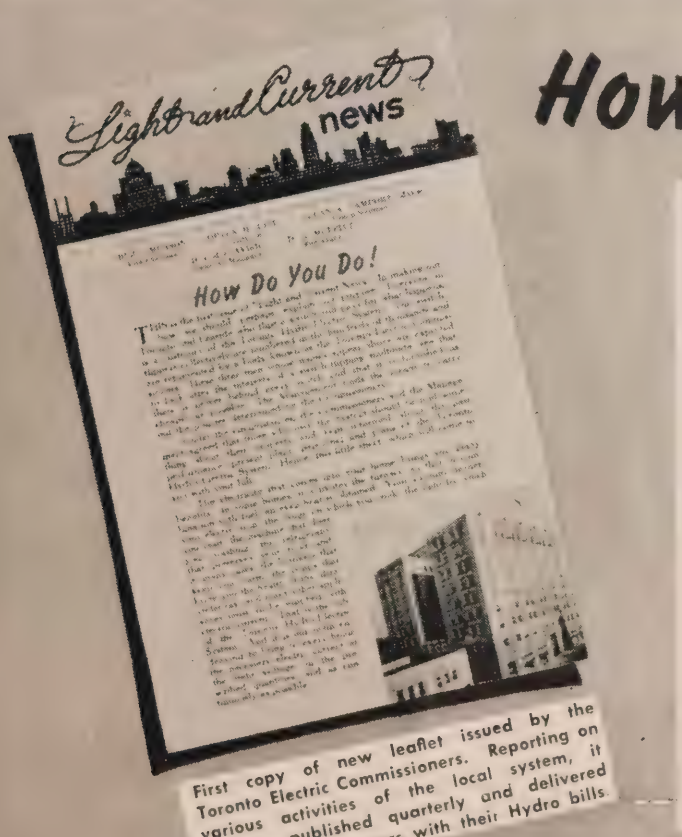
In fact the inspection party was afforded the opportunity of seeing every phase of the sprawling development, including one of the three large camps established to feed and house many of the 3,100 workers at the project.

And to conclude what one guest described as a "very informative and well-conducted tour", the visitors alighted from the busses for a brief look at the great Niagara cataracts themselves.

C.N.I.B. DRIVE

ON behalf of 18,000 sightless Canadians, the Canadian National Institute for the Blind opened its annual financial campaign on April 21 to run until May 10. Objective of the 1952 drive is $275,000. An interesting booklet which the Institute has issued to disseminate information about its activities discloses the fact that there are 22,000 Braille books in C.N.I.B.'s Toronto library. In addition there are 36,000 talking book records. These talking book records, as well as the touch-type books, are circulated post-free from Toronto.

How Do You Do!


Light and Current news

How Do You Do!

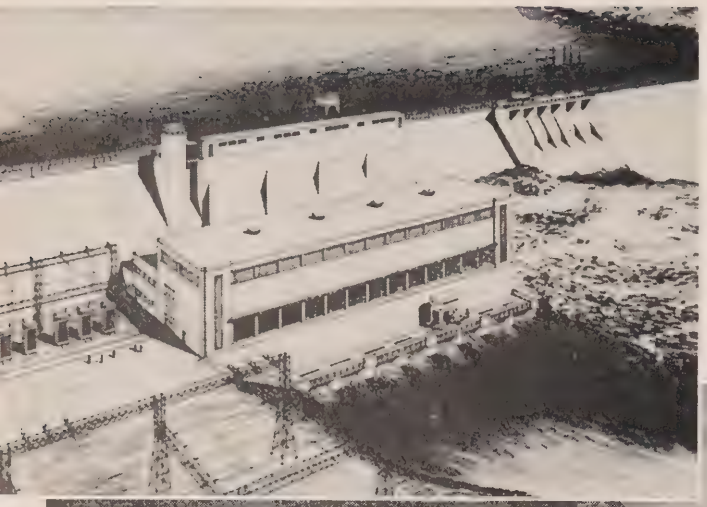
First copy of new leaflet issued by the Toronto Electric Commissioners. Reporting on various activities of the local system, it will be published quarterly and delivered to domestic customers with their Hydro bills.

DOMESTIC customers of Toronto Hydro-Electric System are receiving a miniature newspaper with their Hydro bills these days.

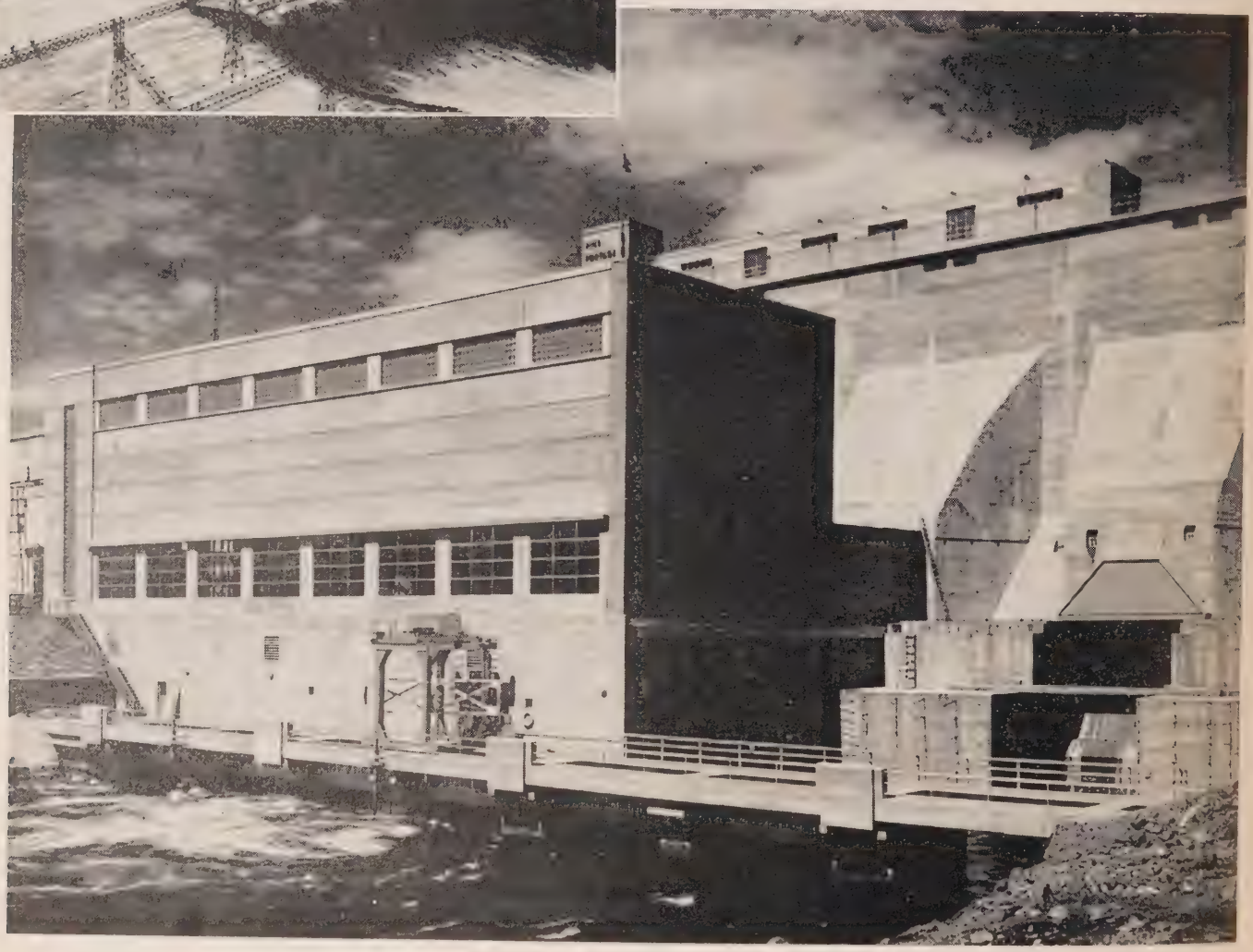
The new publication, "Light and Current News", issued by the Toronto Electric Commissioners, made its debut recently and will be published four times a year.

Designed to keep customers informed of system improvements and future plans of the Toronto Commission, this attractive and interesting leaflet also contains hints on home economics and care of domestic appliances.

The commissioners and management plan to include pertinent "changeover" information when frequency standardization operations are undertaken in Toronto.



ARCHITECT'S PERSPECTIVE of the Pine Portage Generating Station by Kenneth H. Candy, Commission Architect, as it will look, if and when the fourth unit is authorized and installed. Below—View of the plant as it appears today with two units in service. Partially completed penstock for the third generating unit is visible on right.



TO meet Northwestern Ontario's anticipated power demands in 1954, Ontario Hydro has authorized installation of a third unit at its Pine Portage Generating Station on the Nipigon River.

Making this announcement recently, Chairman Robert H. Saunders stated that the decision to build the addition to the Pine Portage plant, for which provision was made in the original design of the station, is based on load trends in the Northwestern Region. Studies conducted by the Commission have indicated that resources presently available to that area, which includes the flourishing Lakehead cities of Fort William and Port Arthur, will be fully utilized by December, 1954.

The two-unit, 60,000-kilowatt (80,000-horsepower) Pine Portage plant, situated roughly 73 air miles northeast of Port Arthur, was officially opened in June, 1950, to keep pace with the postwar expansion in the northwestern section of the province. Since that time there has been a further dramatic increase in demands for electrical energy. To meet the primary needs of municipal, rural and

THIRD UNIT

Commission Authorizes Extension to Pine Portage Plant to Meet Anticipated Demands In Northwestern Ontario

industrial customers in that part of the province, a primary peak output of 199,075 kw. (266,860 hp.) was required in 1950. In 1951 this peak had advanced to 213,920 kw. (286,760 hp.) an increase of 7.5 percent, while energy requirements advanced 9.0 percent.

Estimates of future power requirements have shown also that a fourth unit, with associated facilities, may be necessary at a later date. In order to effect a saving in overall cost, therefore, the Commission has authorized the completion of the powerhouse, including the embedded parts for Unit No. 4 at the same time.

Addition of the third unit will bring the total dependable peak capacity of the station up to 93,000 kw. (124,700 hp.). If, and when Unit 4 is installed, the station will have reached its ultimate capacity of about 169,000 horsepower.

With the third Pine Portage unit in operation, the Commission's dependable peak capacity (all systems generated and purchased) at the end of 1955 will have been increased by 2,368,150 kw. (3,174,500 hp.) to a total of 4,305,650 kw. (5,771,600 hp.) or approximately 122 percent greater than that of December, 1945.

Work on the extension to the plant will begin shortly so that the new unit will be ready for service in 1954. It is estimated that the cost of this addition will be $5,400,000. No additional transmission facilities will be required for the third unit.

The Pine Portage plant, located in a picturesque section of the Nipigon River, 12 miles upstream from the Commission's two other Nipigon plants—Cameron Falls and Alexander—was designed and built by the Commission engineers and construction crews. During the peak of construction for the first two units, some 1,500 men were engaged on the project which involved building a main dam which rises 140 feet above solid rock and spans the river for a distance of 3,000 feet.

The powerhouse on the west bank of the river is located at the base of the main dam. Water is conveyed to the turbines through steel penstocks encased in concrete. Portions of the penstocks for units 3 and 4 were built at the same time as the 20-foot diameter penstocks for the first two units.

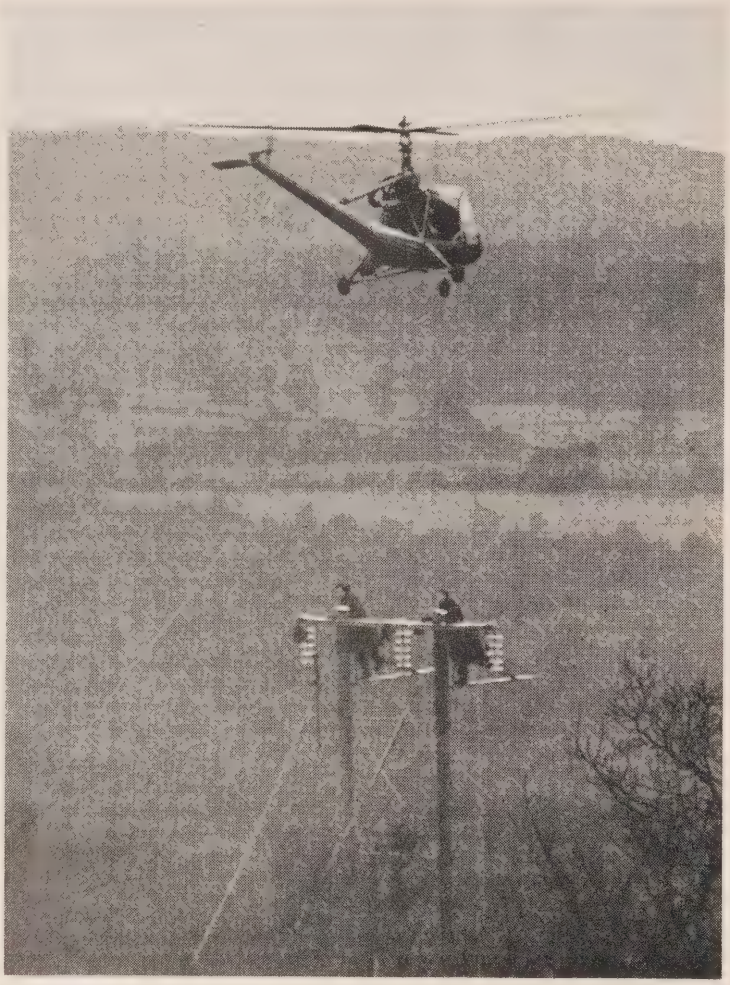
Another Important Step

Another important step in Hydro's mammoth 10-year expansion program, this addition will play a vital role in the further development of Northwestern Ontario.

"As I have said before, we at Hydro have tremendous faith in that section of Ontario and we are taking steps to protect its interests," Mr. Saunders said in concluding his announcement.



SIGNING a revised wage agreement between Ontario Hydro and the Niagara Development Allied Council A. F. of L. on behalf of 18 unions recently, Chairman Robert H. Saunders described the past year as one of "helpful give-and-take and constructive leadership in labor relations." G. Russell Harvey, Chairman of the Board of the Allied Council, seated left, said "The Unions affected are of the opinion that this agreement establishes a new high in management-labor relations." Richard L. Hearn, General Manager and Chief Engineer, and John Dibblee, Manager of Personnel, Ontario Hydro, witnessed the signing of this important labor agreement.



Foreman's Sock goes for a Ride

A SOCK floated slowly across the tree-lined valley, hovered above two men, waiting anxiously at the top of a 50-foot pylon, then dropped to the ground. And as it touched down the men grabbed a line stretched between it and a helicopter overhead—and history had been made. The first part of the task of carrying a power cable by helicopter across the 1,230-foot wide Eastnor Valley (Herefordshire, England) in the Malvern Hills, had been completed—with foreman Hubert Spurr's sand-filled sock as ballast. "I'm prepared to lose a sock in a good cause," said Hubert, wriggling his bare toes afterwards.

To span the valley without using a helicopter would have meant felling hundreds of trees. The rope carried by the helicopter was allowed to rest on the tree-tops, then drawn tight by winches before the cable was attached and pulled across the valley.

BRONTE JOINS FAMILY

(Continued from page 9)

Alfred Jennings, Chairman of the local commission, welcomed the guests and outlined the steps preceding the signing of the new contract.

"On December 3, 1951, we voted on the question of entry into a cost contract with Hydro," Reeve Jennings pointed out. "The result was 185 for and 19 against. In February, 1952, Bronte, therefore, entered into such a contract with the provincial commission and, subsequently elected our own commission".

Wholehearted Co-operation

Offering the wholehearted assistance of his division in making material available to the new Hydro municipality, James A. Blay, Hydro's Director of Public Relations, said he would be very pleased to help new customers acquaint themselves with the activities of the Ontario Commission.

Commenting on the Hydro film "Niagara the Powerful," which was presented during the ceremony, Mr. Blay referred to Hydro's largest construction project, the Sir Adam Beck-Niagara Generating Station No. 2.

Mr. Blay described some of the construction highlights of this mammoth development, and also drew attention to the municipal power distribution display which had been set up in the auditorium.

Cordial Invitation

The speaker extended a cordial invitation to all members of the Hydro family to seek information from the Head Office. Booklets, films, and other informative material would be supplied on request, he pointed out.

Commissioner Charles Livingstone, Bronte Power and Light Commission, thanked the Hydro speakers on behalf of his commission and the village. He lauded the spirit of co-operation which existed in Hydro, and said that "Bronte can look forward to continued success as a member municipality."

After screening of the Hydro film, and an expression of thanks by Chairman Jennings to all participants in the ceremony, the guests enjoyed a buffet luncheon served by the ladies of the Bronte Home and School Association.

—Ian L. Thomson.

To be described as "smart as a steel trap" is a high compliment—a steel trap knows exactly when to shut up.



ARCHITECT'S MODEL OF THE NEW SCARBOROUGH P.U.C. BUILDING.

WITH A LOOK AT THE PAST AND AN EYE ON THE FUTURE, SCARBOROUGH P.U.C. STARTS CONSTRUCTION OF NEW HEADQUARTERS

'ROUND about this time next year there will be a grand and glorious moving day for the Scarborough Public Utilities Commission. Construction of a new $500,000 building, designed by local Architect J. H. W. Bradfield for commission occupancy in 1953 began recently when architect, surveyor and contractor met on the Birchmount and Kingston Road corner site following the award of the contract to the Walter Davidson Company.

The beautiful modern structure, depicted in a scale model now on display at the present offices of the local commission, is being built to keep pace with the phenomenal growth of the community, and will fulfil, undoubtedly, the 20-year old dream of the Scarborough Commission.

Growing Suburb

Scarborough, a growing suburban area as far back as the founding in 1916 of the Scarborough Hydro-Electric System (later combined with waterworks department to form a public utilities commission), has, since the war, felt the impact of postwar expansion in population and housing so evident in settlements close to metropolitan areas all across Canada. Its population in 1945 was 24,000. This year it has gone over the 56,000 mark.

Under pressure of increasing requirements, the Scarborough Commissioners have had the new building in the definite planning stage for the past two years, according to Manager Ronald Harrison. A resolution authorizing the sale of 20-year debentures up to $500,000 at 4½ percent was passed in September, 1951, by the township council, and Ontario Hydro gave formal approval on November 6.

Just two months later, early in 1952, assent of the Ontario Municipal Board was received.

With its completion, Scarborough's new building will combine under one roof all facilities for maintenance, storage, garaging, as well as those of billing, accounting, engineering and other activities of the Hydro department. In addition, the building will serve as headquarters for

(Continued on page 16)





NEW MANAGER, Charles S. Phelps, son of Sarnia Hydro's first manager, the late J. E. B. Phelps, exchanges greetings with Mr. McMann as he takes over the reins.

Claude L. McMann Retires as Sarnia Hydro Manager

ASSOCIATED with the Sarnia Hydro-Electric Commission for over 35 years, Claude L. McMann retired as Manager on April 1. He will continue as consultant to the new Manager, Charles S. Phelps, for a period of a year.

Born and educated at Richmond, Michigan, Mr. McMann started his career with Chatham Public Utilities Commission as a lineman. Later he was in charge of substation construction at Cooksville and Port Arthur. During World War I he served with the Canadian Infantry (186th Battalion).

Joining the Sarnia system as Foreman, he was appointed Superintendent a few months later and held this position for approximately 25 years. In 1941 he became Manager, succeeding the late J. E. B. Phelps, father of the present Manager.

During his unique career with Sarnia Hydro, Mr. McMann witnessed two changes in the city's power frequency. Prior to 1916, the city was supplied by the Sarnia Gas and Electric Light Company. Power was generated by steam at 60 cycles in the building now known as Sarnia Hydro's No. 1 Substation. When the private company was taken over by the Sarnia Hydro Commission, the late Mr. Phelps, Chief Engineer for the company, became the first manager of the newly-formed commission.

One of the first undertakings of Mr. Phelps and Mr. McMann was to change over system and customer equipment from 60 to 25 cycles to utilize the water-generated power supplied from Niagara River plants.

Last year, Sarnia became the first major municipality to revert to 60-cycle power as Ontario Hydro's frequency standardization program got into its full stride.

New Manager

Following in his distinguished father's footsteps, Sarnia Hydro's new Manager, Charles S. Phelps, was born and educated in that city and graduated in electrical engineering from the University of Toronto.

A member of the Ontario Association of Professional Engineers and the Engineering Institute of Canada, he was appointed Assistant Manager of Sarnia Commission in 1949 and held that position until his recent appointment as Manager.

(Continued from page 15)

the community's waterworks system, with waterworks contributing its share to upkeep and carrying charges of the Hydro-financed facilities.

Unique Project

Problems solved by the architect in preparing his plans have helped to make the project unique in several ways. The lot has an angle of 60 degrees at the corner and no direct access to Kingston Road is permitted under Department of Highways regulations. In addition, the Department regulations stipulated that the building be kept well back from both the highway and the corner. The township building line on Birchmount Road had to be respected and a pleasant outlook provided for residents of the township living opposite.

The result, evident in the photograph of the model, is an attractive v-shaped building which embodies pleasing outward appearance combined with carefully-planned efficiency of design. The main portion facing Kingston Road will contain storage and service departments on the ground floor, opening to the rear yard. Offices and other facilities will be located above. When the top floor is completed, it will be used eventually for engineering and other departments.

On the west, the main entrance tower will have doors at two levels, giving access from the customers' parking lot off Birchmount Road as well as a main entrance facing Kingston Road. The main section, 40 feet wide by 180 feet long, will have a special treatment to break up direct sunlight and reflect it into the building on the south side. Some features, adapted from South American and Swiss designs, are believed to be new to this country.

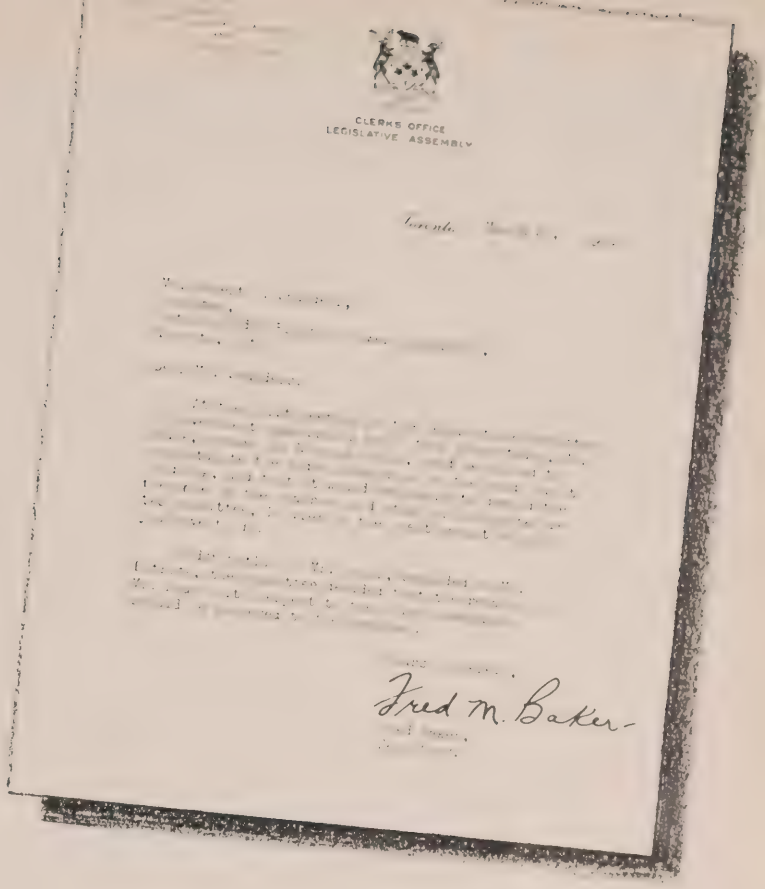
The second wing, forming a V with the main section will be a garage for storing and servicing Hydro trucks. This will be joined to the main building by a connecting link in the form of a sweeping curve with small square windows to control sunlight. The heating plant, washrooms and lunch room will be located in this section.

Chairman John Brown and Commissioners Reeve O. E. Crockford and A. O. Leslie believe they will have an outstanding building both in beauty and utility. It has been designed for low maintenance costs, flexibility and lasting architectural worth.

—Lois Martin.

"GOOD JOB"

Chairman Robert H. Saunders and Ontario Hydro Colleagues Commended by Legislative Committee on Government Commissions


CLERK'S OFFICE
LEGISLATIVE ASSEMBLY

Fred M. Baker

CONGRATULATIONS to Ontario Hydro "on the good job it is doing," were expressed by the Legislative Committee on Government Commissions at its inaugural meeting during the recently-concluded first session of the 24th Ontario Legislature.

The sentiments of the Committee were conveyed to Chairman Robert H. Saunders in a letter from Fred M. Baker, Secretary. Mr. Baker's letter (reproduced on this page) refers to the confidence manifested in the Ontario Hydro Commission by William L. Houck, M.L.A., Niagara Falls, whose suggestion that "it would be unwise to demand the presence of the Chairman and other officials before the committee, in view of the great amount of work you have to do," received the concurrence of fellow committee members.

During the spring session of the Legislature each year, it is customary for this committee to hear reports from the Chairman of each of the various government commissions appointed to administer certain public utilities and functions over which the Ontario Government has jurisdiction.

Last year Mr. Saunders presented a full-scale report to this committee in which he dealt with all phases of Ontario Hydro's operations during 1950. At the conclusion of his 48-page report, the Hydro Chairman was warmly commended by members of the committee for such a comprehensive and informative review of Hydro affairs.

This year the committee indicated its satisfaction with the stewardship of Mr. Saunders and his colleagues by the decision to dispense with the report in order to allow the Hydro Commission to devote its full time to the responsibility entrusted to it.

The 1952 committee comprises the following members: Chairman, Everett L. Weaver, Toronto (St. Davids); James N. Allan, Haldimand-Norfolk; Hon. George H. Challies, Grenville-Dundas; Alfred H. Cowling, Toronto (High Park); Robert E. Elliott, Hamilton East; Wm. L. Houck, Niagara Falls; Charles E. Janes, Lambton East; Charles G. MacOdrum, Leeds; Thomas L. Patrick, Middlesex North; Osie F. Villeneuve, Glengarry, and Norris Whitney, Prince Edward-Lennox.

★



THESE members of the Government Commissions Committee obligingly interrupted one of their sessions to pose for this photo which shows: Front row, left to right, Alfred Cowling, Toronto (High Park); Everett L. Weaver, Chairman, Toronto (St. Davids); Charles E. Janes, Lambton East; R. E. Elliott, Hamilton East. Back row, left to right, Thomas L. Patrick, Middlesex North; C. G. MacOdrum, Leeds; William L. Houck, Niagara Falls and James N. Allan, Haldimand-Norfolk.

PIONEER MILL



ABOVE — Snider Flour Milling Company, first industrial plant in Kitchener-Waterloo area to change over to 60-cycle power. Right—Grist mill has been located at this site for 136 years. This drawing shows the original mill which was built by early settler, Abraham Erb, in 1816.

Site of first hydro-electric development in Waterloo County takes lead in frequency changeover operations

By W. G. Woods
Secretary-Treasurer,
Waterloo P.U.C.

CITIZENS of Waterloo marked a new chapter in the city's history on March 11 when 60-cycle power was turned on for the first time at the Snider Flour Milling Company.

This is the first industrial plant in the entire Kitchener-Waterloo area to be completely converted from 550-volt 25-cycle to 60-cycle power supplied by Hydro. The 25-cycle supply was cut on the morning of March 10, and the 60-cycle power was connected and in use by the following morning.

This company was the first in Waterloo to prepare the inventory, estimate, and engineering determinations for frequency standardization operations, completing this work in February, 1951. The planning was so well done, and so well carried out under the supervision of Sutherland-Schultz, Ltd., that this "cutover" was possible without having to use both frequencies or a frequency changer at any time. Some thirty motors were affected, ranging from ½ horsepower to 40 h.p. with a total rated capacity of 255 h.p.

Historic Site

It seems appropriate that Waterloo's first changeover should take place at what is considered one of the historic sites in the county. A grist mill has been located here for 136 years, ownership passing back and forth among the descendants of the pioneer families.

It is interesting to note that the first grist mill, known as Union Mills, was erected here in 1816 by Abraham Erb, who took up 900 acres of land in 1806, with Jacob Schneider, Christian Schneider and 45 others. Ownership of the mill was assumed in 1829 by Jacob Schneider, from whom the present owner, C. W. Snider, is descended. Of particular interest to Hydro folk is the fact this mill housed the first plant to produce and sell electricity in Waterloo on a commercial basis. At that time it was owned by William Snider, who purchased the mill in 1898,

(Continued on page 21)

HYDRO Home Forum



by Edithemma Dighton
Hydro Home Economist

Going, going, gone . . . Winter! Already we've purchased packets of seeds and are ready to plant the best varieties of vegetables for freezing. If you store vegetables in a deep-freeze or locker the following are recommended: Long Island Brussels Sprouts; Goldban or Golden Bantam Corn; Thomas Laxton or Tall Telephone Peas; Burpees, Early Stringless, Tendergreen or Valentine Beans; Broad leaf Spinach, and Henderson's Lima Beans.

* * *

House Repairs and renovations are also popular occupations these days so here goes for a few hints: When putty needs replacing, remove the old by using nitric or muriatic acid. Be sure to apply it with an inexpensive art brush. In a few minutes the putty will be soft and can be removed without using a knife.

* * *

To remove wallpaper readily, mix two tablespoons of saltpetre in a gallon of hot water and apply to paper with a sponge. Hot water makes the job easier too!

* * *

Do you know that if you rub your hands thoroughly with vaseline before painting paint splatters will come off easily in warm water?

* * *

To freshen a feather pillow it is advisable to make a bag of strong mosquito netting to hold the feathers. Sew the opening of the pillow case and wash in sudsy water, then rinse. When dry, remove stitching from the case, turn inside out, and rub with beeswax (slightly softened). Insert the bag of "aired" feathers and restitch.

* * *

Slip a piece of white paper over the shuttle plate of your sewing machine when the glare makes it difficult to thread the needle. Then bring the needle down to the paper and thread easily.

* * *

The following notes on cooking may be clipped and pasted on 3 by 5 inch cards for filing under sections relating to each subject.

* * *

If you have not discovered yet that shredded raw parsnips have a taste resembling crabmeat, try a combination of 2 cups shredded parsnips, 1 cup diced celery, 1 tsp. minced onion and a few sliced olives. Season with salt, pepper and French dressing.

* * *

Another inexpensive vegetable at this time of year is last year's onions. Prepare a casserole of scalloped onions and use a few slices of potato between layers.

* * *

Food storage for convenience is not always a good idea. For example, since heat, light and air tend to destroy color and aromatic flavor, it is wise to keep the herbs and spices near the mixing centre—never over the range. Then, too, keep a piece of wax paper under any perforated caps.

* * *

Dampness is another storage problem. Starchy foods will mildew if stored where cooking steam collects—such as high cupboards or poorly ventilated bins. Use tightly-sealed containers or screw-top jars to keep cornstarch, open packages of ready-mix, raw cereals, whole wheat flour, etc.

* * *

Cottage cheese will taste better when the container or jar is turned upside down on a saucer. This keeps it from drying out on top and the whey from settling to the bottom.

* * *

Asparagus is a delicious spring vegetable. It always looks and tastes fresher when cooked about 15 minutes. To be sure of tenderness and fresh flavor, snap off the tough ends, remove the scales, then wash before placing stalk down in a narrow saucepan. Add 1 inch of hot water and cook for 15 minutes after boiling starts.

* * *

Shredded wheat shells are attractive for holding fruit, ice cream or custard desserts. Roll 6 shredded wheat biscuits until very fine, mix with ⅓ cup each brown sugar and butter or margarine. Press lightly into 6 muffin pans and bake 10 mins. in electric oven of 400 degs.

* * *

When baking cake with butter, margarine or lard you should use ½ cup of either along with ⅞ cup milk. If you use shortening, measure out 1 cup milk.

* * *

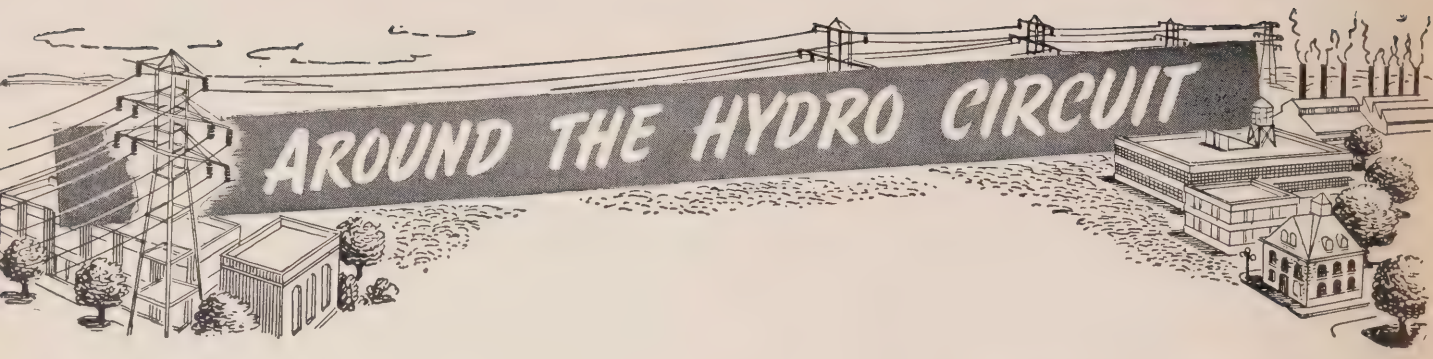
Drop cookies are best baked at a temperature of 375 degrees in the electric oven.

Glory Cake

Make a 3-layer cake and ice in a decorative way.

2 eggs, unbeaten
1½ cups granulated sugar
⅓ cup water
2 tsps. corn syrup
dash of salt
1 tsp. banana extract
1½ cups coconut, shredded
12 jelly beans

Put the first ingredients into top of double boiler and place over rapidly boiling water. Cook 7 mins. beating constantly. Spread icing between layers and over cake. Pat coconut over top and sides. Add jelly beans in groups of three.



Hydro to Serve Hawkesbury Area

Taking Over Distribution System From Gatineau Company

ONTARIO Hydro is to take over the distribution system in the Hawkesbury Division of the Gatineau Power Company where there is a total of some 3,100 customers of all classes. Agreement has been reached between Hydro and the Quebec company for the purchase of these distribution facilities.

Included in this distribution system are the municipalities of Hawkesbury, Vankleek Hill and L'Original and a large rural section. The total load involved, including that supplied to the Canadian International Paper Company at Hawkesbury is a little over 10,100 kilowatts or 13,400 horsepower.

Service to these customers will be provided by means of a 115,000-volt transmission line built by Hydro between Cumberland and Hawkesbury, a distance of approximately 50 miles. This line ties in with the Commission's transmission system at Cumberland on a supply line from Maclaren-Quebec Power Company, one of the Commission's suppliers.

WINDSOR HYDRO COLLECTIONS

HYDRO division of the Windsor Utilities Commission announced recently that it had effected 99.98 percent of total collections during 1951.

Outstanding accounts at the end of the year amounted to $654.44 (due almost entirely to automotive damage to light standards) out of a total revenue of $3,437,898.

The local commission approved a motion of appreciation to John F. Cook, Office Manager, for this high collection average.

Named Manager of North Bay Hydro

BERNARD M. GRAHAM, formerly Assistant Manager of Sudbury Hydro, was recently appointed Manager of the North Bay Hydro-Electric Commission. He assumed his new duties on March 1st.

Mr. Graham succeeded S. R. Walkinshaw, who resigned his position to accept the post of General Manager of the Orillia Water, Light and Power Commission.

A native of Meaford, Ontario, Mr. Graham is a graduate of the University of Toronto in Electrical Engineering.

He was previously employed by the International Nickel Company as engineer at Copper Cliff. He joined that company in 1932, and remained with them until 1945, when he accepted the twin positions of Assistant Manager of Sudbury Hydro-Electric Commission, and Assistant Manager of the Sudbury Waterworks.



BERNARD M. GRAHAM

Mr. Graham was a member of the Sudbury Lions Club, and his hobbies include sailing and chess.

He is a married man, and has two sons and three daughters.

RECORD YEAR AT OTTAWA HYDRO

CLOSING 1951 with a surplus of $809,337, Ottawa Hydro had the best year in its history, according to Chairman Frank H. Plant at a recent meeting of the local commission.

The surplus, Mr. Plant stated, would be used for system improvement and betterment, including a new $425,000 substation.

Mr. Plant pointed out that additions to plant during 1951 exceeded the 1950 figure and amounted to $1,184,507. "These additions were paid out of current revenue," he stated.

Ottawa Hydro's assets at the end of December, 1951, totalled $17,441,051, debenture balances and accounts payable totalled $7,103,986, while reserves amounted to $6,132,569.

Classified Ads

POSITION VACANT

PROFESSIONAL ENGINEER with good electrical background and adequate experience, to manage and plan maintenance and extensions to Hydro, gas and water utility systems in a town in Southwestern Ontario with a population of 8,000. Very favorable living conditions. Salary in accordance with experience, but in the range of $5,500-$6,500 for the type of man desired.

Apply giving age, education and brief outline of past experience to:—

Box 10, Hydro News, Ontario Hydro, 620 University Avenue, Toronto, Ontario.

PIONEER MILL

(Continued from page 18)

and in 1904 offered to supply electricity for power and street lighting.

Steam-Operated

In 1909 he was supplying direct current for 22 motors to 19 customers, delivering 130 h.p. The town of Waterloo purchased his electrical equipment, moving it to the site of the present No. 1 substation, where it was steam-operated until power was brought in from Niagara.

Progressive Spirit

The mill has grown from a pioneer water-powered grist mill to a plant with an electric power demand of 145 h.p. An average of 100 tons of grain are processed weekly into various grades and blends of flour and feed, in addition to other processing and supply activities. It is particularly pleasing to those engaged in power distribution in Waterloo, to realize that the enterprise and the progressive spirit which produced the first electric power in the community is still very much alive, and the opportunity of paying a tribute to this example of the pioneer spirit is very welcome.

APPOINT CHIEF STATISTICIAN

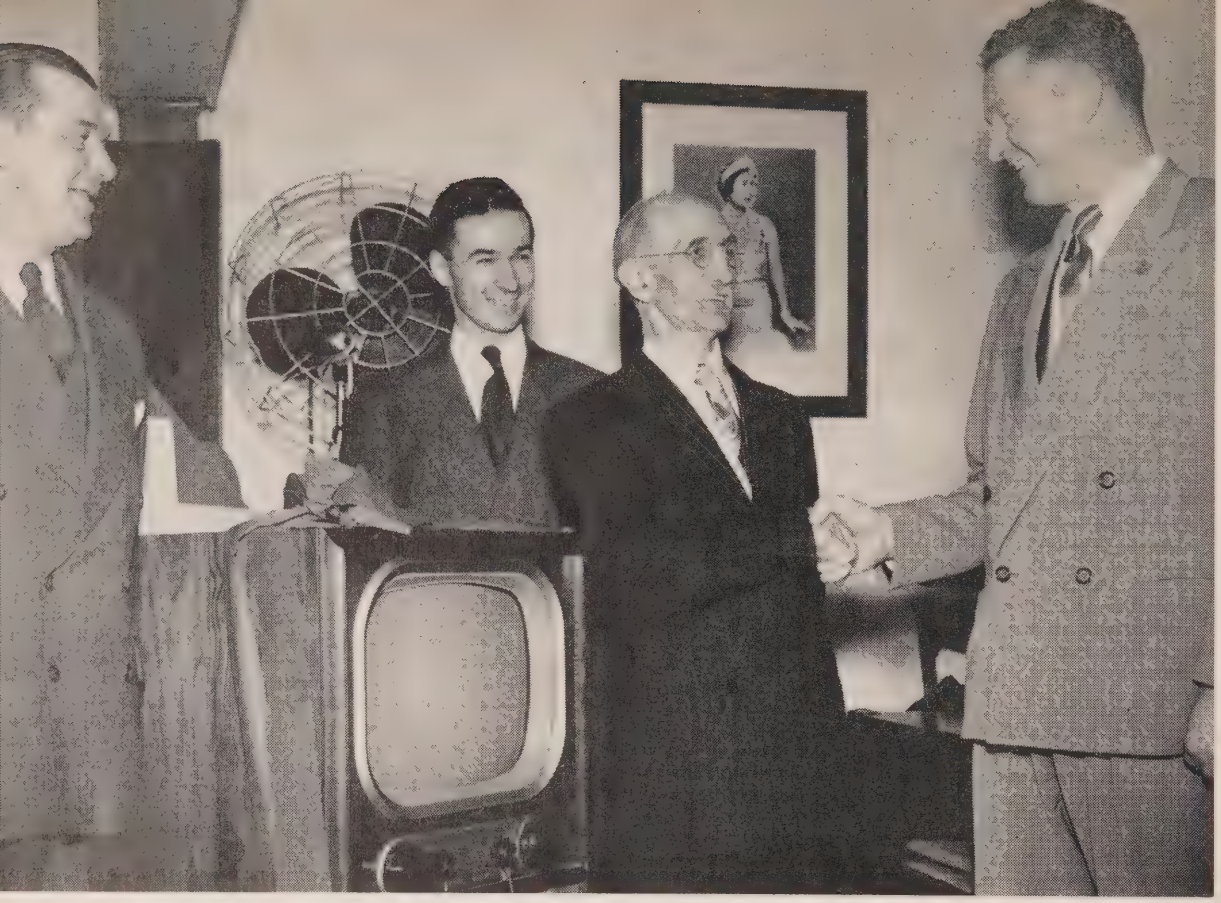


APPOINTMENT of Walter S. Preston as Ontario Hydro's Chief Statistician was announced recently. Mr. Preston's appointment will fill the need for a central authority to guide and coordinate the work of collecting and presenting statistical information. Joining the Commission in 1926 at Niagara Falls, Mr. Preston moved to Hydro's Head Office in Toronto in 1932 when the Statistical Department was first formed under L. J. Marsh. In 1950, on Mr. Marsh's retirement, he was named Operations Division Statistician, holding this position until his latest appointment. He will be assisted in his new work by W. H. Sanders, formerly a member of the staff of the System Planning Department.

Our new office girl just learning to play golf says its like automobile riding, you smack the pill, then walk.



ELECTRIC CLUB OFFICERS—During the recent annual party, members of the Toronto Electric Club's 1952-53 executive posed for this photo. They are, left to right, I. M. MacLean, C.G.E. Company, and George Dale, Electrical Maintenance and Repair Co., Ltd., Vice-Presidents; J. S. McGregor, Toronto Hydro, Past President; H. M. Morris, Bell Telephone Company, Vice-President; J. G. Inglis, Toronto Transportation Commission, President; E. W. MacLeod, Ontario Hydro, Vice-President; W. E. Pointon, T.T.C., Treasurer; I. D. A. Cook, Bell Telephone Co., Secretary. Absent is Vice-President Milt. Hastings, Powerlite Devices Ltd. President Inglis joined the T.T.C. in 1936 and is Assistant Manager of Equipment.



ALONZO T. ("LONNIE") SMITH'S record of Hydro and community service during the past three decades or more was recognized recently when he was feted at Merritton's Legion Hall. As a token of appreciation he was presented with a large-screen television set. In the picture above "Lonnie" (2nd right) is congratulated by Merritton Town Councillor Len Leo. Standing behind him is Chairman Frank Kaupp, Merritton Hydro-Electric Commission, and at left, Mayor F. O. Leeson of Merritton. BELOW: Congratulations from the fifth to the first! Lloyd E. Richardson, (right), who is the fifth superintendent at Merritton Hydro, exchanges greetings with the Hydro veteran who was first to hold this position. Frank Kaupp of Merritton Hydro is on the left.

photo-news

Veteran St. Catharines Inspector Feted

ALONZO T. SMITH, Ontario Hydro electrical inspector in the St. Catharines district for 33 years and Superintendent at Merritton Hydro for nine years, was feted recently by over 200 friends who gathered at Merritton's Legion Hall to pay tribute to this long-service Hydro employee.

"Lonnie," who retired in 1948, is still active in community affairs. Among the positions he still holds is that of Treasurer of Merritton's team in the Niagara District Baseball League. Other organizations with which he has been actively associated include the Canadian National Institute for the Blind, the Canadian Legion, the local Lions Club, and the town's free ambulance service.

Lonnie's friends recall that he initiated free ambulance service in Merritton. A number of years ago he obtained a chassis from a car previously owned by the late Sir Adam Beck and since then ambulance service has been provided for more than 2,400 persons.





Field Experience

AFFORDING students the opportunity of studying actual construction techniques, Ontario Hydro recently played host to a party of University of Toronto mechanical engineering students at a tour of its Niagara development. Accompanied by Dr. G. Ross Lord, Varsity's Professor of Mechanical Engineering, the students inspected the Commission's Sir Adam Beck-Niagara Generating Station No. 1, and also visited sections of the new Sir Adam Beck No. 2 power project. In the above photo, William Hogg, (right), Assistant Field Project Engineer at the new development, explains a map of the Niagara Falls area. Watching are Roy Taylor, Michael Wahl, Alex. Lawson, Don Laughlen and Gordon Goodkey.



LEFT: Hydro Engineer John Chapman explains a changeover point to Charles Donavan, James Rowley, B. W. Bareham, and R. S. Hillman, Windsor heating equipment dealers. BELOW: Curriculum of the "Change-over School" included a tour of an area undergoing 60-cycle standardization. Ontario Hydro technician Stanley Sharpe is shown describing the steps involved in changing over a household furnace in the home of Peter Christoff. Watching are John Chapman, Sid Bonner, Ralph Tomlin, David Hoover, Carl McIntyre, William Band and Paul Lirette.



Unique Windsor "School"

WINDSOR heating equipment dealers went back to "school" recently when a panel of Ontario Hydro equipment experts held a series of technical sessions to familiarize the dealers with standardization techniques.

Demonstrated at the school were 25-cycle appliances and the 60-cycle replacement parts necessary for changing over the lower-frequency equipment. Apparatus for testing the operational efficiency of oil-burning furnaces also was demonstrated.

Many questions were dealt with during the lectures, and at their conclusion the dealers stated that they had served a good purpose in helping solve standardization problems.

Maybe You'll Laugh Too!



She was only a gravedigger's daughter, but you ought to see her lower the beer.

A mountaineer, seeing his first motorcycle roaring down the road raised his rifle and fired several times.
"Did you 'het' the varmint?" called his wife.
"Het it but didn't kill it," came the answer. "I can still hear it growlin'—but I sure made it turn thet man loose."

Customer: "I'll have some lamb chops and make them lean."
Waiter: "Forward or backward, sir?"

Boss: "How long have you been working here?"
Worker: "Ever since you came in the door."

"Yes, I got two orders on my first day as a salesman."
"Fine! What where they?"
"Get out and stay out."

Recruiting officer (sarcastically): "And I suppose you want a commission?"
Recruit: "No. I'm such a poor shot. I'd rather work on a straight salary."

Angry Father: "What do you mean bringing my daughter home at 3 o'clock in the morning?"
Suitor: "Well, sir, I have to be at work at 4."

Diner: "What is this?"
Waiter: "Filet of sole, sir,"
Diner: "Send it back and ask them to remove the rubber heels."

Bandage-covered Joe lay in the hospital bed and spoke dazedly to his visiting pal: "Wh-what happened?"
"You absorbed too much and then made a bet you could fly out the window and around the block."
"Why didn't you stop me?" screamed the patient.
"Stop you. I had $25 on you."

Opera Star: "The matter of breathing is highly important to a singer."
Bored listener: "It's also rather important to a non-singer."

Many a man has made a monkey of himself by grabbing the wrong limb.

Conceited young man: "It's a fact that people often take me for a member of the guards."
Pretty young thing: "Really! Mud or black?"

"Who was the lady I saw you with the other night at the sidewalk cafe?"
"That was no sidewalk cafe. That is our furniture—we're living there."



"Can you see Mrs. Stanley now, Doctor? She's in an awful hurry!"

—Reprinted from Cosmopolitan



"She does that all the time . . ."

Exasperating, isn't it? . . . when you find yourself practically on your ear, or lamenting a new stocking run, just because you had to do gymnastics to plug in an electric appliance. That's what comes of having too few "convenience outlets", and those not even "convenient". The way to avoid all that, of course, is to insist on ADEQUATE ELECTRIC WIRING in your home.

All you need to know about that term, "Adequate Wiring", is that it means plenty of outlets in every room, served by enough different circuits, and includes sufficiently heavy wire to allow an electric range or water heater to work properly.

The simplest guide is the "RED SEAL" certification by the Electric Service League of Ontario, of which your Hydro is a member. When a home is adequately wired according to "RED SEAL" specifications, a red seal bearing the words, "STANDARD ELECTRIC HOME" will be placed on the main service switch box. If your home has that seal, you can be sure that it is wired to modern standards.

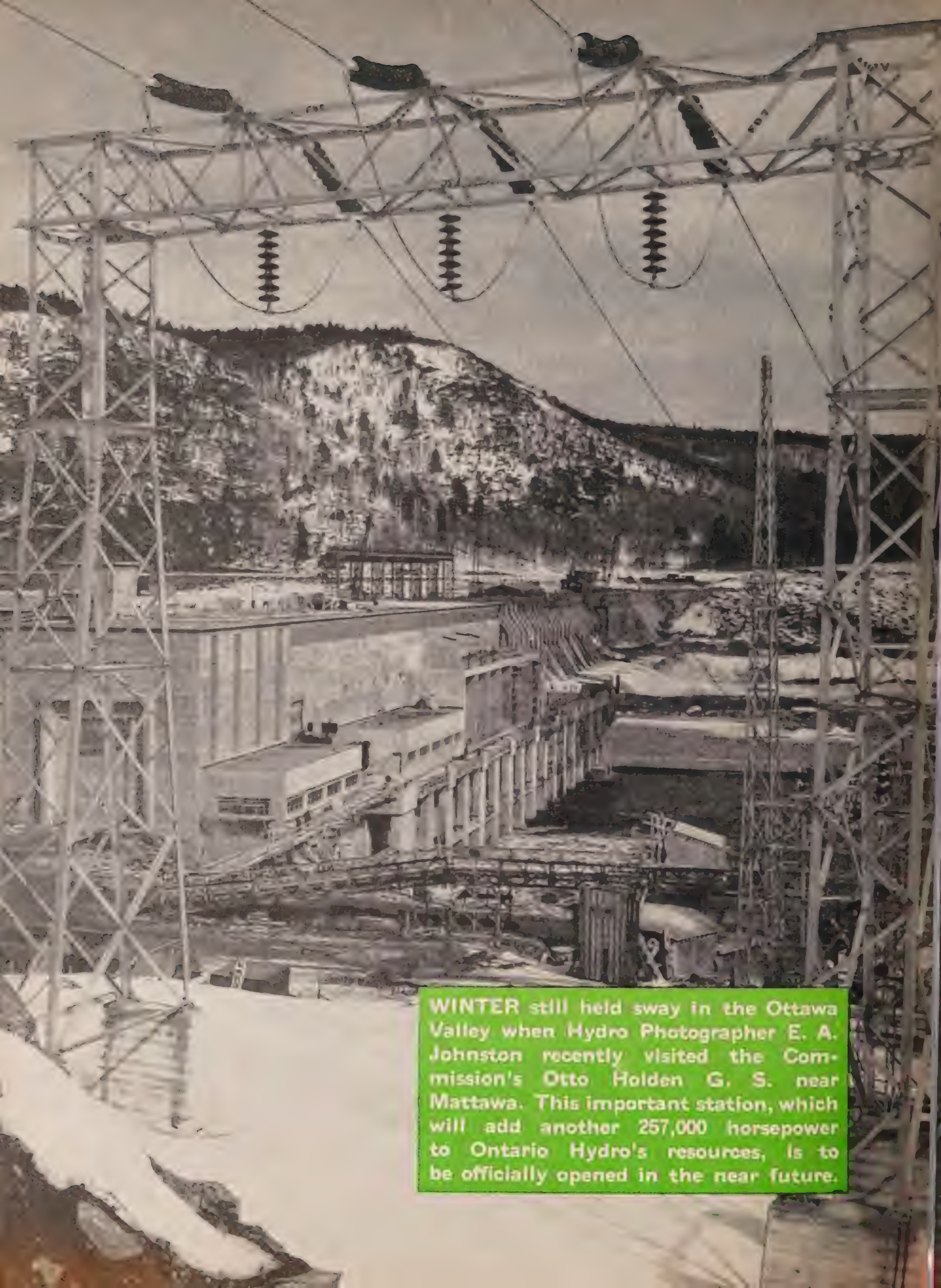
You need adequate wiring in your home. Obtain information on "Red Seal" wiring from your local Hydro or your local contractor.

If you are improving or building a home, ask your Hydro for the booklet "Adequate Wiring Today for Electrical Living Tomorrow."

"RED SEAL" ADEQUATE WIRING



THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO



WINTER still held sway in the Ottawa Valley when Hydro Photographer E. A. Johnston recently visited the Commission's Otto Holden G. S. near Mattawa. This important station, which will add another 257,000 horsepower to Ontario Hydro's resources, is to be officially opened in the near future.

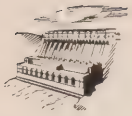
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ONTARIO HYDRO News



MAY, 1952

VOLUME 39 NUMBER 5

Published by

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 University Avenue, Toronto

Not an Idle Boast!

IN seeking to substantiate the claim that Ontario is experiencing a period of phenomenal growth and prosperity, one can find ready evidence of this by examining the increase in her population during the past decade.

According to a special compilation of final figures of the Ninth Decennial Census by the Dominion Bureau of Statistics, the province made a 25.4 percent gain in urban population from 2,591,494 to 3,251,099 between 1941 and 1951. In fact, Ontario made the biggest numerical gain, 659,605, of any Canadian province, followed by Quebec with a gain of 640,371.

Ontario also led the other provinces with her numerical gain of 150,282 in rural population. Within the 10-year period, the province's rural population increased 12.5 percent from 1,196,161 to 1,346,443. In this respect she was one of six registering gains while the rural population of four others declined in the decade.

This gain in the number of rural dwellers is reflected, to some extent, in the estimate of farm cash income for 1951. Ontario had the largest total of any province: $793,700,000 compared with $678,500,000 the previous year.

Another significant barometer of her prosperity is the preliminary annual report of the Dominion Bureau of Statistics which states that Ontario's mineral production in 1951 rose in value to $437,085,000 from $366,802,000 in 1950, accounting for 35.6 percent of the all-Canada total of $1,228,005,000 (a new peak) as against 35.1 percent in 1950.

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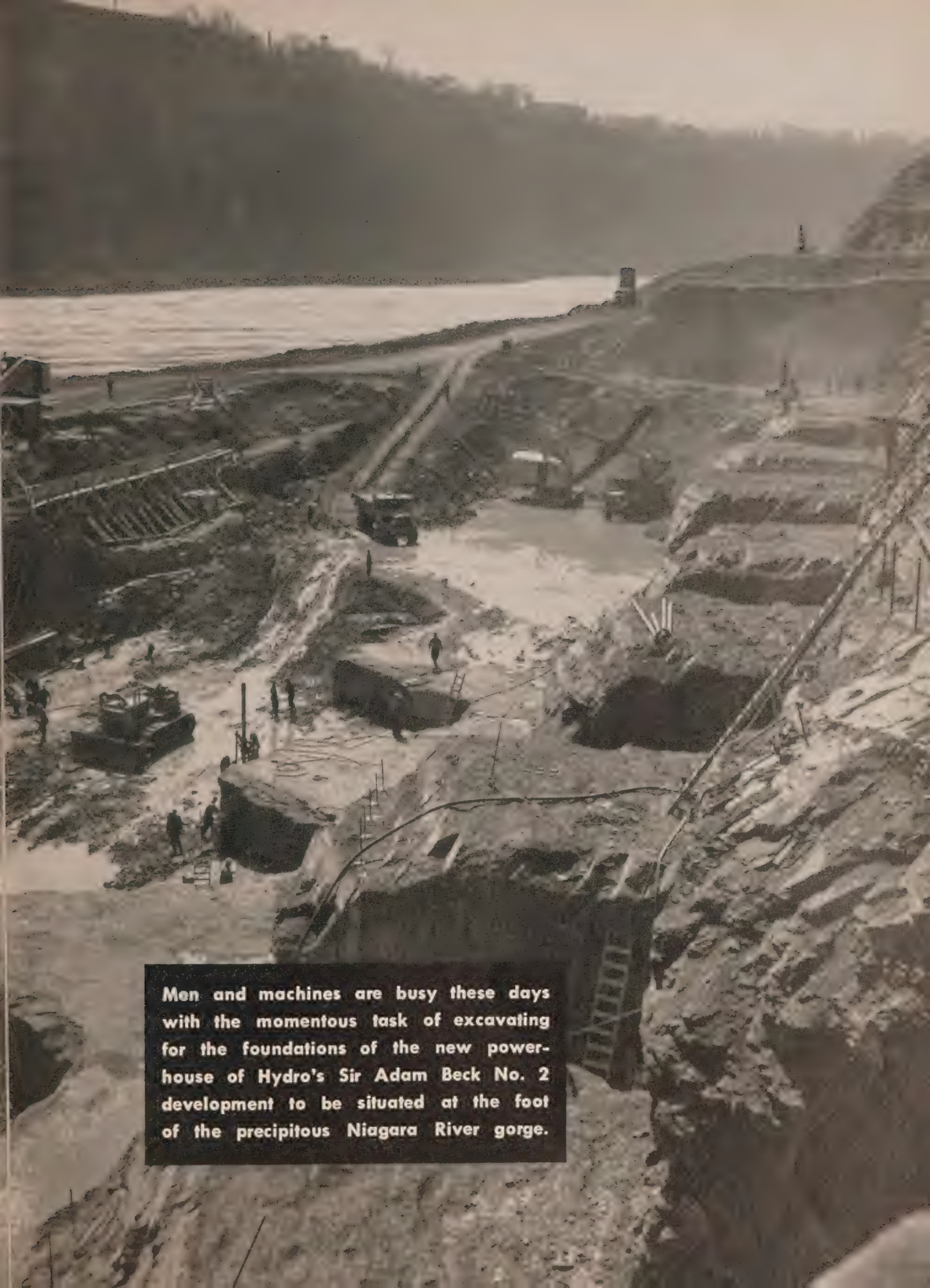
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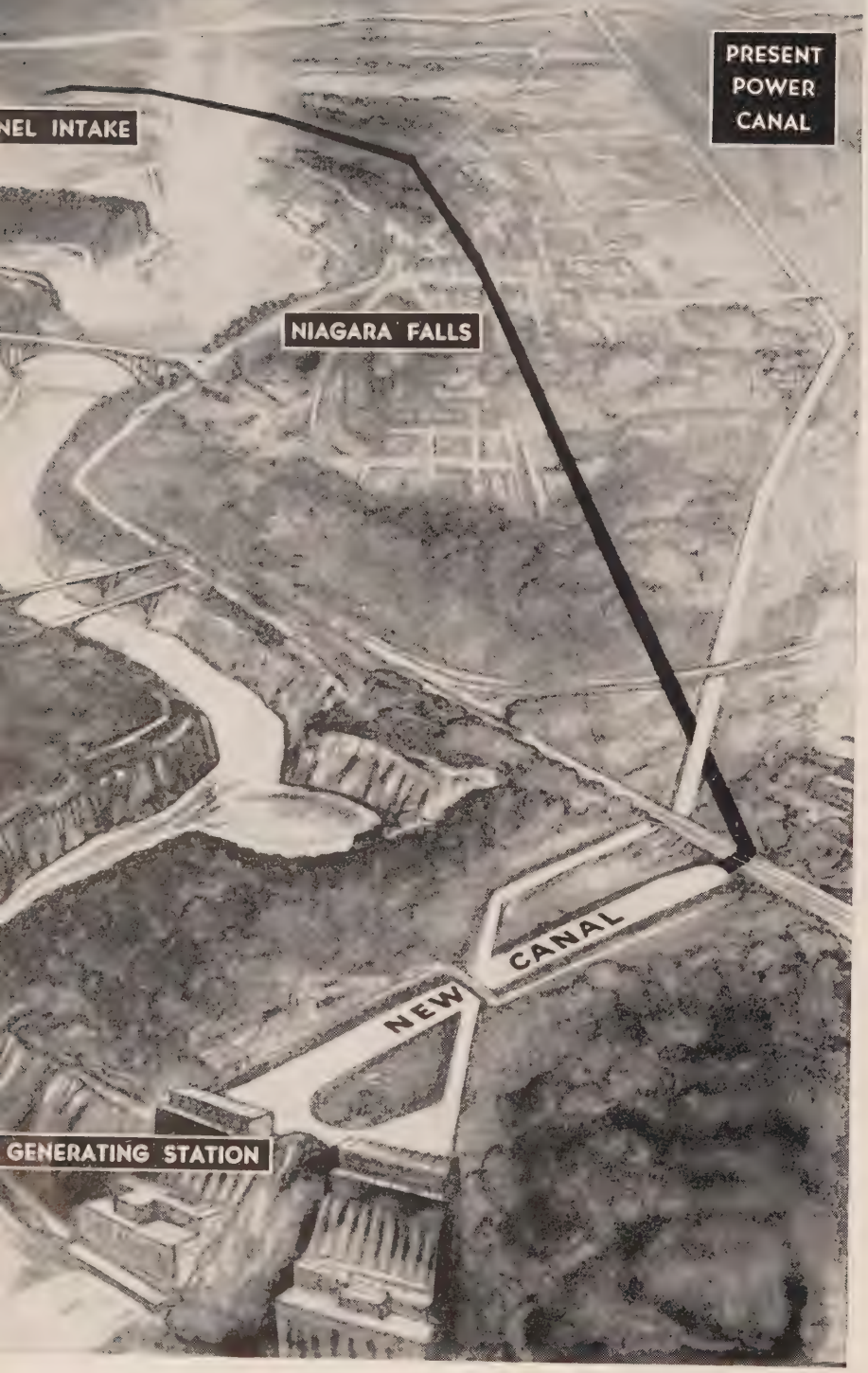
MALAK, well-known Ottawa photographer, has given Spring a new significance with his unusual impression of Canada's National War Memorial on this month's front cover. As for the back cover, rest assured you are not seeing double. The comely misses are Marlene and Arlene Jackson (twins as you can see quite readily), who are members of the staff at Hydro's Niagara Regional office and obligingly posed for Photographer "Ted" Johnston in a graceful setting of blossoms when he visited the Cataract City recently.

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Men and machines are busy these days with the momentous task of excavating for the foundations of the new power-house of Hydro's Sir Adam Beck No. 2 development to be situated at the foot of the precipitous Niagara River gorge.

Power Leviathan



by Harry M. Blake

"THAT'S the Jumbo over there," Don Rankin, one of Hydro's field engineers told us, pointing to the farthest corner of the vaulted grotto.

This vaulted grotto was at the bottom of a deep shaft, one of five being sunk to permit excavation of a 5½-mile tunnel which passes under the City of Niagara Falls, as Ontario Hydro proceeds with the biggest and most impressive hydro-electric project in its history.

By means of an intake structure, and a tunnel and canal system, regarded as outstanding in magnitude, water will be conveyed from the Niagara River above the Canadian Horseshoe Falls to a new powerhouse which the Commission is building at Queenston.

Like the existing station at Queenston, the new power plant will bear the name of the great founder of Ontario Hydro and will be known as the Sir Adam Beck-Niagara Generating Station No. 2. It will have an ultimate installed capacity of 1,200,000 horsepower, with 400,000 horsepower available in 1954 and a further 300,000 horsepower with the completion of the first stage of the project in 1955. The second stage, developing an additional 500,000 horsepower, will be completed at a later date.

A few months ago, piecing together the component parts of this vast new development was like trying to solve a gigantic jig-saw puzzle. Today, although operations, extending from south to north a distance of nearly nine miles, are scattered over an area of approximately 8,000 acres, the various tasks have taken form and character in their relationship to the overall picture. It is now possible for an observer on the ground with some knowledge of the Commission's planning, to envisage quite readily the completed undertaking.

Fresh from a visit to Niagara, we shall endeavour to follow the chain of activities

in orderly sequence from the intake near Chippawa to the new powerhouse, which is being built at the foot of the cliffs, cheek by jowl with the Sir Adam Beck-Niagara G. S. No. 1.

Antecedents of Project

First, in order that readers may start off in step with *Hydro News,* something about the why and wherefore, and the planning of this impressive project will be appropriate.

The program of power development inaugurated by the Commission in 1945 was the most tremendous and far-reaching in its annals. It aimed at adding 1,600,000 horsepower to the installed generating capacity of the Hydro systems in the shortest possible time through rapid-fire construction at sites where development at a more leisurely tempo had been tentatively planned in pre-war days. Soon, however, it was discovered that it would be inadequate to meet the increasing demand for electricity especially in Southern Ontario.

Bringing in of a further power resource which would practically double that originally planned became an imperative necessity. Recently, this has been stressed by Canada's defence program and the mounting demands not only by industries but also by domestic and rural customers.

Approval was at once given for the construction of the Otto Holden Generating Station north of Mattawa. This exhausted the power sites available to Ontario on the Ottawa river. As far as Southern Ontario was concerned there now remained only two more major water-power resources — the St. Lawrence and Niagara.

The proposed joint project at the Long Sault rapids on the St. Lawrence required approval from the United States as well as from Canada. At Niagara, although the older treaties had been modified to some extent during the war to permit of the use of more water by power producers, arrangements were on a temporary basis with definite expiry dates. Moreover, the terms were such that no new power developments might be undertaken without a new treaty.

Faced with a critical situation, the Commission could take no chances. It was forced to depart from Hydro traditions and to give approval for the construction of two major fuel-electric plants — the Richard L. Hearn G. S. at Toronto and the J. Clark Keith G. S. at Windsor.

The construction of more fuel-electric plants, with all its implications of a much higher cost of power to Hydro customers, was under serious consideration when in 1950 negotiations between the Department of External Affairs at Ottawa and the Department of State at Washington culminated in a new Niagara treaty. Simply



BUILT INTO the face of the cliffs in close proximity to Hydro's famous Sir Adam Beck No. 1 Station, the Sir Adam Beck-Niagara Generating Station No. 2 will have an ultimate capacity of 1,200,000 horsepower. Excavation has been practically completed for the powerhouse foundations together with tunnels and trenches for nine of the twelve penstocks each of which will be about 500 feet long and weigh approximately 500 tons. This photo, taken from the U.S. side of the river, shows the extensive excavation necessary for powerhouse and penstock construction.



COFFERDAM CONSTRUCTION for dewatering the intake site at the new Niagara project. The cofferdam will be built 500 feet out into the water.



stated, this treaty provided for the use of more water by power producers on both sides of the border at times when the demand is greatest. At the same time it guarded against any diminishing of the grandeur of the Falls as a spectacle. Correlated to the provision for more water was the permission to utilize it through further power development.

Planning New Development

As soon as the treaty was signed, Hydro Chairman Robert H. Saunders arranged for an immediate start on the new Niagara project.

Operations at Hydro's Sir Adam Beck-Niagara No. 1 Generating Station had manifested clearly that a powerhouse located at the base of the cliffs at Queenston, with a 294 foot head, could produce about 50 percent more power than plants located in the immediate vicinity of Niagara Falls. Location of the new powerhouse in close proximity to the older one afforded the additional advantage of unified control, thus considerably reducing the cost of operation and maintenance. Investigation showed that the best place for the intake would be about a quarter of a mile below Chippawa and not far from the intake for the Sir Adam Beck-Niagara G. S. No. 1.

Apart from these locational similarities in intake and powerhouse the new development differs widely from the older one.

No. 1 Development comprises an intake structure at Chippawa, a deepening of the Welland river, with a reversal of flow for 4½ miles, and the construction of a canal 8½ miles long from Montrose on the Welland river to a forebay and gatehouse located on the edge of the Niagara gorge.

In No. 2 Development a gathering tube has been devised to prevent ice being taken in with the water and will take the place of previous types of intake structure.

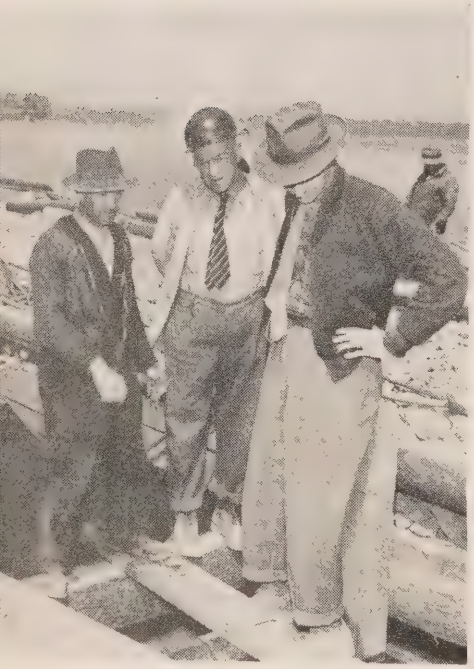
Intake Like Gigantic Box

The gathering tube — a gigantic box-like receptacle of reinforced concrete—will be 500 feet long, with a maximum height and width of 45 feet. It will be built on the river bed at its permanent location, with its length paralleling the river and the longitudinal row of entrance ports submerged at a minimum depth of eight feet.

Through a short conduit, the water, continuously harvested by the gathering tube, will be conveyed to a tunnel which will dip downward. Passing under the City of Niagara Falls and the existing power canal for the Sir Adam Beck No. 1 plant, at a depth of about 300 feet, it will emerge at a point near the Whirlpool Rapids, when an open canal will convey the water to the forebay and powerhouse.

Working on Cofferdam

When we visited the intake site we found that construction on the cofferdam for the dewatering of the area where the huge gathering tube will be built was



CONSTRUCTION SUPERINTENDENTS discuss one of the many problems in cofferdam construction—this time moving crib into position.



STEEL SHEET-PILING is used at this site to protect the rock-filled cribbing against damage from ice and leakage into dewatered area.



LOCATION SURVEY at the new Niagara project.

already well advanced. Large quantities of timber supplied from recently completed Hydro developments were being used, while rock excavated on the present project was employed for fill-in. With the shore-line included, the cofferdam will take the shape of a quadrilateral trapezium, with one leg carried 500 feet out into the river. It will close off an area of 14 acres so that water can be pumped out to enable the construction crews to work on the intake structure in the dry.

Unless one is a statistician, comparisons are better than figures for giving an idea of dimensions. When we realize that the gathering tube will be approximately as long as the Toronto Union Station, which has a frontage of 506 feet, and that its submerged depth will represent the height of an average five-storey building, we obtain a more realistic impression of its size.

Associated Construction

The immediate river area feeding the tube will be dredged in funnel-shaped form to facilitate the intake of water, and allow the free, unobstructed passage of the ice floes downstream. Upstream the shoreline will be straightened by the elimination of a small bay. The filled-in section will be secured by a retaining wall running from the upstream end of the gathering tube for a distance of approximately 1,300 feet. Thus, a parcel of land capable of improvement will be added to the foreshore.

Under Solid Rock Cover

The depth of the tunnel has been dictated largely by the existence of a minimum 10-foot stratum of limestone rock to provide a solid roof. After it leaves the intake its line is marked by the headframes of the entrance shafts which rise to a height of 125 feet above the ground. These five shafts are located at convenient intervals to provide for the removal of the excavated rock, the lowering and raising of equipment and the ingress and egress of the crews employed on the job. Three of the tunnel sections are being built for the Commission by Perini-Walsh and Associates and the remaining two by the Rayner-Atlas Company.

As the Niagara project is planned as a twin-tunnel scheme, the shafts are sunk midway between the sites of the two tunnels. Working chambers and cross-cuts have been excavated at the bottom of the shafts, connecting with both tunnels. When one tunnel is completed, it will be sealed off from the cross-cuts by massive plugs of concrete, leaving, however, plenty of room for starting work on the other.



ANOTHER CONSTRUCTION problem is solved! "That's how we'll do it," points out Project Manager Gordon Mitchell. Having contributed to the answer, L. J. Gallagher, Construction Superintendent (left), W. L. Fraser, Field Project Engineer, and W. M. Hogg, Asst. Field Project Engineer, are all smiles.



Beginning the Tunnel

At the time of our visit a start had already been made on the tunnel from the cross-cuts of the northerly two shafts. So we decided to go down and see for ourselves how it looked below ground.

Two hundred and fifty tons of steel went into the construction of the headframes of No. 3 and 4 shafts and they are probably the most massive structures of their kind ever erected in Canada. The two-and-an-eighth-inch steel cable controlling the movement of the cage, with full allowance for the safety factor, can handle up to approximately 50 tons in one lift. However, as there are other considerations in hoisting operations besides the strength of the cable, it will probably not be used for lifts of more than 20 tons.

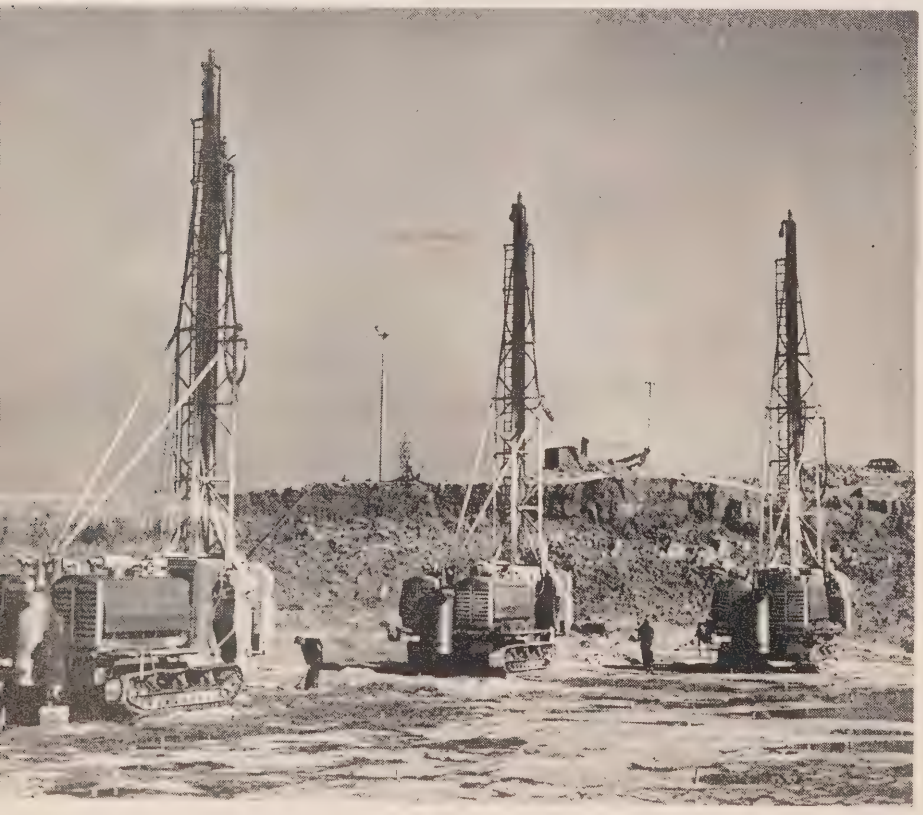
We stepped into the cage which de-



LOADING A 30-ton truck with a drag-line bucket. Hydro construction engineers have perfected a tail gate attachment for these big diesels to prevent semi-fluid material from slopping over en route to the dumps.



SECTIONAL FORM for one of the huge draft tubes for Ontario Hydro's new powerhouse at Queenston. It is 15 feet in diameter at the top. (The draft tube's function is to recover as much as possible of the energy remaining in the water after it has passed the turbine runner.)



QUARRYMASTER DRILLS in the canal section of the development. These drills, working to a pattern, drill 6-inch holes for blasting.

scended as smoothly as one of the elevators in a modern office building. On the way down we got a fleeting view of the strata — shales alternating with harder rock, and near the bottom the thick seam of limestone which will provide the roof cover throughout the entire length of five and a half miles. Additional protection to the working crews will be provided by 8-inch steel "I" beams, with channel lagging, spaced 4 feet apart throughout the entire length of the tunnel.

At a depth of 210 feet, we got off at the cross-cut. In order to expedite preliminary operations, excavation had so far been carried out only down to the "equator" of the tunnel so that we found ourselves in a dome-shaped chamber, some 51 feet in width, but with a maximum ceiling of approximately 25½ feet. The 51 feet will be the rough-cut diameter of the tunnel which will be reduced to 45 feet when lined with concrete.

It was here that we met Mr. Rankin, who pointed out the "Jumbo" to us as he explained the methods of excavating the huge tunnel.

We were looking at a steel-framed structure with three platforms. It was not unlike one of those siege towers employed in ancient warfare, with the men in metal hats gathered about catapult-like equipment on the platforms or swarming up the structure to join their comrades.

Suddenly long steel rods shot out from the top platform towards the rock face.

"Drifter drills," a foreman explained. "They're controlled hydraulically. All you have to do is to press a lever at the end of the long feeds and the drills will do practically anything you want them to do. They're Joy T-350's on a temporary Jumbo mounting. When we . . . . ."

Further words were lost in a deafening cacophany as one after another the drills contacted the rock and, straightening into rigid alignment with the supporting jibs, got down to work.

The Jumbo we saw in action had been built in the cross-cut area. Mounted on steel runners, it had been skidded over planks into the drilling position by a 17-ton bulldozer.

The permanent type of Jumbo will be mounted on wheels and will be equipped to handle a good many more drill jibs



POWERFUL MODERN equipment speeds up work in the canal. This huge shovel has a capacity of 4 cubic yards. It is loading material for disposal at one of the areas.

than the sturdy, but somewhat roughly fabricated model at which we were looking. It will be brought into use as soon as the tunnel is far enough forward to provide unobstructed ground for easy manoeuvre.

The giant bulldozer had been lowered to the cross-cut by cage in the customary manner, although, not on account of its weight but because of its dimensions, it was first stripped of its steel blade and lateral attachments. The mucking of the loose rock will be carried out by big, electrically-operated shovels equipped with buckets of 2½ cubic yards capacity. Each mucking unit will weigh in the neighbourhood of 65½ tons. As "safety first" is the inflexible rule on all Hydro jobs, they will be lowered in sections and reassembled in the tunnel.

As Work Progresses

Down there in the cross-cut we could imagine just how the tunnel will take shape to the clamor of the drift drills and the clank of the mucking machines.

Carved out of the solid rock, the tunnel will be excavated as closely as possible to dimensions. That means very careful blasting. The contractors will have the responsibility of determining just how much dynamite will be required to dislodge at each "shot" enough rock to keep the job moving according to schedule. Too big a blast might dislodge an avalanche of rock and entail a large amount of costly concreting.

Excavated rock will be mucked up by the giant shovels and loaded for transit to the nearest shafts in diesel trucks whence it will be lifted in skips to the surface. In the 5½ miles of tunnel there will be five million tons of rock to handle.

Every working day the fleet of huge trucks, operating over miles and miles of Commission-constructed roads, will make a total of 1,000 trips a day carrying the excavated material from the five shafts to the disposal areas.

Down in the tunnel, following close in the wake of the mucking operations, the scaling crews will prepare the rough, naked rock periphery for its concrete lining — a layer averaging three feet in thickness and as smooth and precisely circular as if drawn with a draftsman's compass.

Along The Canal

Where the flow emerges from the tunnel there will be a gate structure, after which it will be all open canal.

The first part of this canal, with ex-



HEADFRAMES FOR the shafts giving access to Hydro's Niagara tunnel are massive structures handling 20-ton elevator cages and 17½-ton muck skips for raising material.



WORKING IN the trapezoidal section of the canal. Drag-lines are being used for excavation.



JACK HAMMER drilling at the foundation for the powerhouse. This type of drilling is almost completely confined to crowded quarters.

cavation now well advanced, will be a trapezoidal section devised to cross an ancient river valley. This ground is really an extension of the gorge at the Whirlpool. It is filled with glacial debris. As there is no flanking rock, the canal in this section will have to be walled with concrete.

Finally, flow will continue through a normally shaped rectangular section of solid rock about 200 feet wide. In this form it will make a grade crossing with the existing Queenston-Chippawa canal, and continue on to enter the new forebay which will be just upstream from the existing forebay.

One of the most interesting problems the Commission had to solve was how to devise a grade crossing of the two canals without causing turbulence and a consequent loss in head. This problem was complicated by the fact that water in the old canal flows at 12 feet per second, while in the new canal it will flow at 7½ feet per second under full load. However, a model was built and a solution found.

The headworks at the forebay will not be built with the large superstructure which many of you have seen on the headworks of No. 1 Development. It will be a comparatively unobtrusive structure which will contain the hoisting machinery for operating the gates. A gantry will be used for the lifting of racks.

In the present powerhouse the transformers and a large part of the switchgear are inside. In the new plant, transformers will be outside between the powerhouse superstructure and the slope of the bank, and the switching structure will be on top of the escarpment on an island between the two forebays. So the powerhouse superstructure of the new plant will be somewhat smaller than the No. 1 plant.

Excavation Jobs

The excavation job in the canal and forebay calls for the removal of approximately 8,500,000 cubic yards of earth and rock. For the tunnel about 2,200,000 cubic yards of rock will have to be excavated.

Drilling-and-mucking was very active on the day of our visit although there is not much difference in the tempo of operations at any time. The rectangular section was already down to a size where its completed shape could be visualized. We were amazed at the beautifully precise blasting job which had been carried out.

DRIFTER DRILLS on a Jumbo mounting boring holes for the first of the dynamite charges which are being used to blast a tunnel 51 feet in diameter, through 5½ miles of rock. Note the steel structure supporting the loose rock in the roof of the tunnel.





PENSTOCK TRENCHES at Hydro's Sir Adam Beck-Niagara No. 2 Generating Station. Descending the Niagara cliffs at an angle of 60 degrees, the steel penstocks will have an inside diameter of approximately 19 feet and will be encased in concrete. They will convey water from the headworks to the turbines in the new powerhouse. Each will be 492 feet long.

The canal is contained here by its natural rock walls and these looked as if they had been chiseled to line by a sculptor rather than roughly hewn by blasts of dynamite. The character of the blasting depends to a considerable extent on accurate drilling. Both the rotary Joy drills and the percussion Quarrymaster drills were doing a masterly job.

Farther on towards the powerhouse site an electrically-powered shovel, with a capacity of four cubic yards to the lift, was mucking up after a blast, and diesel trucks, in constant procession, were loading the excavated material for removal to the dumps.

One of the two automatic mixer plants which will serve the project, had been erected near the powerhouse. The other will be located in the neighbourhood of Chippawa. Altogether, 850,000 cubic yards of concrete will be used on the project.

Excavations for the powerhouse were practically complete and preparations were afoot for pouring the concrete foundations. Work at the powerhouse site has been assisted greatly by an access road built by the Commission, which sweeps down the flank of the cliffs to practically river level and continues on to the village of Queenston half a mile or so to the south.

From the American side of the river the trenches and tunneled excavations for the penstocks stood out in sharp relief against the face of the lofty cliffs.

The steel penstocks, encased in concrete will have an inside diameter of approximately 19 feet. Each will be 492 feet, 7½ inches in length, with a weight of about 500 tons. They will descend at an angle of 60 degrees, to the turbines in the powerhouse below.

With an installation of seven generating units, the powerhouse will be 570 feet long, 60 feet wide and 60 feet high. For the 12 units of the completed project, the length will be extended to 830 feet. The generators will each weigh approximately 604 tons.

Three Camps Established

With close to 5,000 men to be employed on the project at the peak of construction, three camps have been established, each equipped in traditional Hydro fashion for the comfort and welfare of the men. There are cafeterias and recreational facilities at all the camps and a fully equipped hospital at Camp No. 2.

As we left the project the harsh and discordant noises inseparable from construction jobs faded away. In their place we seemed to hear the pleasant sound of rushing water — twenty thousand cubic feet of water passing through the tunnel and canal every second of the day and night. It was feeding the whirling turbines in the new powerhouse, while the softly-purring generators converted waterpower into electric power to turn the wheels of industry and help light our cities, our farms and our homes — contributing to the happiness and welfare of every man, woman and child in this favored province.

Honor Rex Martindale



AMONG the gifts received by Rex Martindale was an oil painting, gift of Ontario Hydro. L. to r.—Mr. Martindale, Chairman Robert H. Saunders, Leo Landreville, Chairman, Sudbury Hydro; Dan Jessup, Sudbury Mayor, and J. D. McInnes, Vice-Chairman, Sudbury Hydro Comm.

"REX MARTINDALE has always been a wonderful man to me, and he's been more than that to Hydro — a great citizen."

This sincere tribute was offered by Sudbury's Mayor Dan Jessup at a recent civic dinner honoring R. H. Martindale on completion of 50 years as Secretary-Manager of the Sudbury Hydro Commission.

Among those present to honor Mr. Martindale were: Chairman Robert H. Saunders and other representatives of Ontario Hydro; members of the Sudbury Hydro-Electric Commission; civic officials, as well as several long-service civic and Sudbury Hydro employees.

Leo Landreville, Chairman of Sudbury Hydro Commission, reviewed Hydro progress in Sudbury since Mr. Martindale took over management of the city's distribution system in 1902. At that time, Sudbury Hydro operated only a single small steam plant; today its assets are valued at more than $2,000,000 and plans are being made for a capital expansion of over $850,000 in 1952-53.

Gifts honoring Mr. Martindale and expressing the warm personal feelings of the donors were presented to him. Sudbury Hydro employees presented him with an outboard motor for his summer boating pleasure; Ontario Hydro unveiled an oil painting of the veteran manager which he, in turn, presented back to the Ontario Hydro. It will hang in the R. H. Martindale Transformer Station near Sudbury. The Association of Municipal Electrical Utilities of which he is President this year presented him with a gladstone bag.

Mayor Jessup introduced the quarter-century club members to the audience, congratulating them on their achievements during their association with the local commission.

Outlining Mr. Martindale's interests, Mayor Jessup mentioned choir singing, through membership in the Rotary and Masonic orders, to fishing, hunting, hockey, gardening, and spinning tales of the growth and development of Sudbury.

Chairman Robert H. Saunders, paid tribute to Canadian engineers, particularly

(Continued on page 21)

ON BEHALF of Mrs. Martindale, who was unable to attend the dinner, the veteran manager accepts a bouquet of roses from Miss Angeline Acquin, a gift from the Sudbury Hydro Commission staff.





N. A. GRANDFIELD, General Manager, Galt P.U.C. finds it a pleasant task to present travelling bag to Mr. Martindale on behalf of the A.M.E.U. Outboard motor was gift of employees of local commission.

HYDRO *Home Forum*

by Edithemma Dighton
Hydro Home Economist



Dairy Food Services

This is the time of year when we take a new "lease on life." The immediate change is noticeable in fresh foods with special emphasis on salads and cold desserts. Desserts may be sandwiches, using cake for the "bread" and ice cream as the filling. Choose the ice cream that complements the cake flavor. There are many plain, fruit-filled and vari-flavored types of ice cream. Try slices of brick ice cream with fruit, spice, chocolate or white cake.

* * *

Asparagus is more tasty when a creamy, tart sauce is used. Beat ¾ cup melted butter with a dash of salt and cayenne in it. Blend in 1½ tbsps. lemon juice gradually, then beat in 3 egg yolks, one at a time. Serve hot. (Do not leave too long—sauce may separate).

* * *

Self-frosting cakes are easily made by sprinkling colored cocoanut on cake batter before baking.

* * *

Chicken, sausage and cold beef can be combined to make tasty croquettes, enough for dinner-size portions. Make a quick sauce with condensed celery soup.

* * *

Left-over bread for hot beef sandwiches can be a real treat. Make dry bread into a dressing and pan fry it for 5 minutes. Place a spoonful on each plate; pat it down to the size of a slice of bread, top with sliced beef and pour on hot gravy.

* * *

For a pick-up luncheon your guests will be pleased if you use long toothpicks or skewers for the relishes. Prick a radish then a piece of celery, a sweet pickle and a tiny onion. Sprinkle with salt.

* * *

Strawberries will soon be here. So here's a recipe for Strawberry Cream Pie. Whip 1 cup thick cream, add 3 tbsps. sugar and ½ tsp. vanilla. Fold in a beaten egg white, 6 halved strawberries and ½ cup toasted cocoanut. Chill until thick. Pour into a Graham Cracker Crust. Add sweetened whole strawberries.

* * *

Time is the essence! Those who use the dover egg beater for making boiled frosting, whip the mix for 7 minutes. Homemakers who own an electric mixer operate it for 4 minutes to make a fluffy frosting.

ICE CREAM SANDWICHES

1 gingerbread
1 pint vanilla ice cream
½ cup whipping cream
1 teaspoon sugar
½ teaspoon vanilla
Whole pecans

Bake your favorite gingerbread or quick mix in a 8 x 8 x 2 inch cake pan. When cool, cut cake into 6 rectangles, approximately 2½ x 3½ inches. Then cut each rectangle in half crosswise. Slice ice cream brick into 6 equal pieces and place a slice on each bottom gingerbread piece. Cover with the top slice to form a sandwich. Quickly place sandwiches in the freezer compartment of electric refrigerator to chill. Just before serving beat whipping cream until stiff. Add sugar and vanilla and blend thoroughly. Top each ice cream sandwich with a mound of whipped cream and a pecan. Serves 6.

Note: You can vary both the ice cream flavor and the cake to make other delightful "sandwiches".

Rhubarb has many uses. For instance you can make rhubarb into pie, pudding, gelatine salad and such dishes. A tasty gelatine salad is made by dissolving a package of raspberry gelatine with a cup of hot rhubarb sauce. Then stir in a cup of cold pineapple juice. When partially cool pour into a mold and mix in a cup of diced celery and nuts. Serve with boiled dressing on lettuce cups.

* * *

Make the last bite delicious! When you mix a cup of diced, leftover pork with a cup of corn meal porridge, you should chill it. Then slice and pan-fry at supper time. This is good and it will serve four.

* * *

You can anticipate a tasty treat if you try a colorful fruit compote of 1 part diced grapefruit sections and 2 parts cold canned cranberry.

* * *

Flaked tuna mixed with grapefruit sections makes a superb salad. For eight servings use 2 small tins of tuna, 3 hard-cooked eggs, 1 minced onion, ½ cup diced celery, and 1 sectioned grapefruit. Toss with sour cream dressing.

* * *

A chowder, unlike a cup of consomme, is never an invitation to dinner. A chowder is a meal in itself. Although the main ingredient is fish (1 lb. salmon for 4 servings) you should start off by simmering a ham bone (with minced onion, celery, carrot, potatoes and parsley) for 2 hours. Finally add tomatoes and fish, and simmer another 15 minutes.

* * *

Double duty. When you are making a cake, grease the pan with the rubber scraper you have used to remove the shortening from the measuring cup. If you need more fat take out a small amount with the scraper.

ance of dual frequency lamp ballast which measures input watts, lamp starting and operating current, lamp watts and starting voltage at both cycles.

Big SAVING...

Dual Frequency Equipment and New Meter Changeover Methods Expected To Effect Overall Economies of $25,000,000 in Hydro's Standardization Program



by Frank Wood

Public Relations Division (F.S.)

BY the use of dual-frequency refrigerator units, Ontario Hydro anticipates that a total saving of some $12,500,000 will be effected in the overall cost of its frequency standardization program in Southern Ontario.

A pilot model was developed in the Commission's engineering workshop and Canadian Westinghouse Company Limited has produced approximately 100 of the new-type units for field testing in both 25-cycle and 60-cycle areas. Efficiency tests conducted by the manufacturer point to the same operating economies now offered by electric refrigerators produced for 60-cycle operation only.

Culminating many months of intensive study and exhaustive research, Ontario Hydro and Canadian Westinghouse representatives met earlier this month to mark the initial delivery of the special "run" for field observation.

Commending the "magnificent co-operation" of this company and other manufacturers who have given valuable assistance in keeping costs down, Chairman Robert H. Saunders recently pointed out that "the savings made possible by this outstanding development will have a tremendous impact on our entire changeover program."

Exhaustive Studies

A year before the standardization project actually began, Commission engineers were making a thorough study of the problem of dual frequency equipment.



As a result, in addition to the anticipated saving on refrigerator units, an almost similar amount will be saved through combined economies on fluorescent lighting ballasts, oil burners, motors and motor-driven equipment, signalling bells and domestic watt-hour meters—representing a total estimated saving on the overall program of close to $25,000,000. Typical of the major savings are $3,000,000 through the use of a special auto-transformer for oil burners. The development of new techniques in the changeover of house meters will, it is expected, effect savings of $3,544,000 on original estimates.

Because of the increasing popularity of fluorescent lighting, dual frequency equip-

★

IN THE F.S.D. Engineering Shop, Director H. H. Leeming examines a stator from a refrigerator unit which was altered to operate at either 25 or 60 cycles. Others in group are, l. to r., M. D. Berry, Harold S. Smith, F.S.D. Engineer, S. E. Burnett and H. R. Graff, who were responsible for producing the unit.



ment was designed in co-operation with the manufacturers. Agreements were executed ultimately between Hydro and three manufacturers to supply only dual frequency and 60-cycle ballasts for fluorescent lights in Southern Ontario. Thus, today when a "cutover" to 60-cycle power is made, the necessary modifications can be effected in a matter of a few minutes.

These achievements have encouraged Hydro's research and engineering staffs as well as those of certain electrical equipment manufacturers to devise further economical methods of standardization.

Every Saving Important

With 886,000 customers to be affected eventually by frequency standardization, according to present estimates, and costs rising in other directions, every saving is assuming great importance.

Ontario's rapidly increasing population and the increase in the use of electrical appliances, have been reflected already in the annual load increase on the Hydro system. The original study and recommendations were based on an average total Southern Ontario System primary load growth of 77,000 kilowatts per annum during the five years 1947 to 1951, inclusive. In this period the Commission actually experienced a load growth of about 160,000 kilowatts per annum.

Growing Dependence

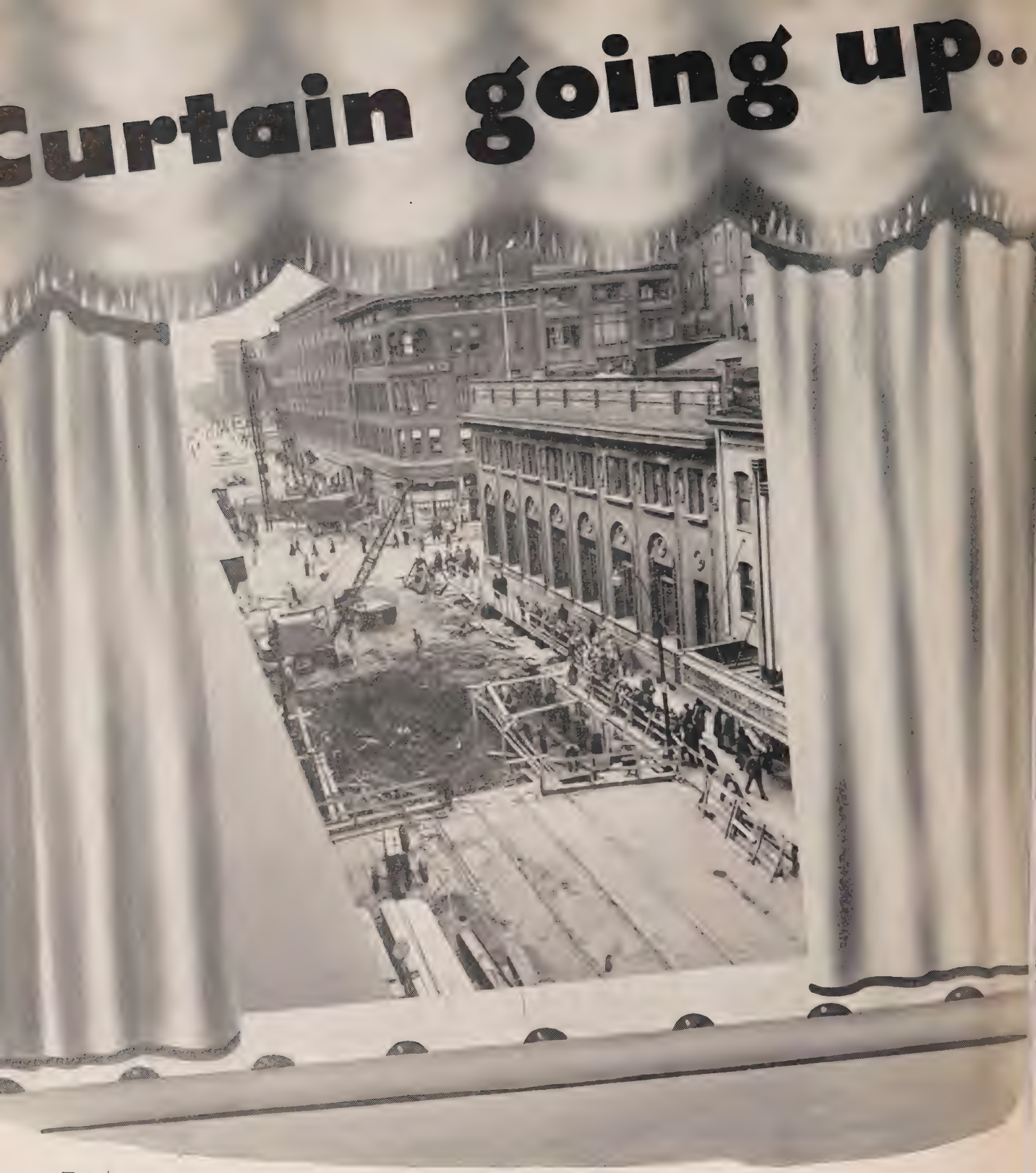
The progress of the standardization program has brought to light Ontario's growing dependence on electricity. The estimated average number of frequency-sensitive appliances per home, prior to undertaking the 60-cycle changeover, was 2.7. A tremendous upsurge in the purchase of such appliances since the program began has raised this figure to an average of approximately four per home.

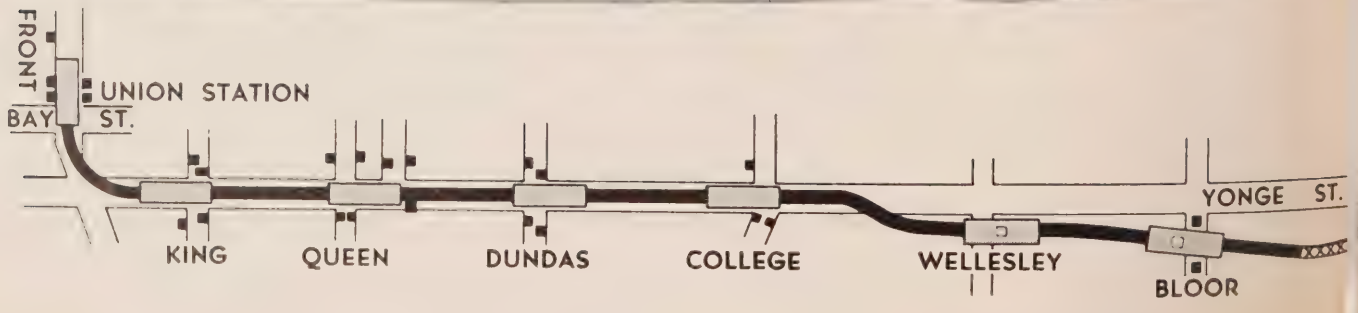
This has called for certain revisions in terms of planning and costs of the big frequency standardization program. Coupled with its concentrated effort to devise new types of dual-frequency equipment and new changeover techniques, the Commission is making the best of every opportunity to retard 25-cycle load growth by making 60-cycle power available to new, as well as existing industries, in advance of regular changeover operations.



THIS sphere photometer was used to test lamp efficiencies at both cycles. Both hot and cold cathode fluorescent lamps have been tested at Hydro's Research Laboratory. Technician Betty Laird, in this photo, is measuring light output of incandescent lamp.

Curtain going up..





Canada's First Subway Will be a BIG Power Customer

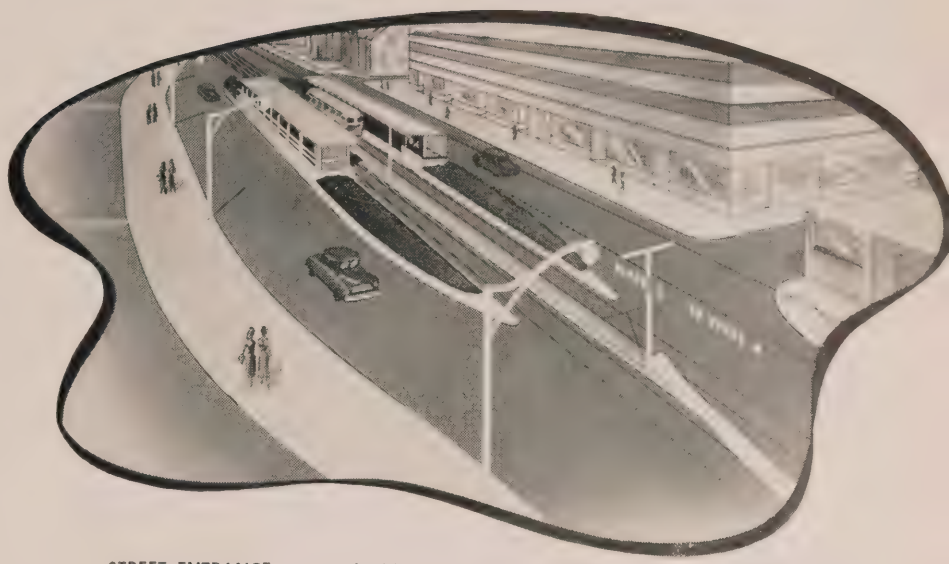
by R. F. Edge

THE time is Christmas, 1953.
The Place: Toronto.

The Occasion: Canadian premiere of a smash hit that's already had a long run in London (its English title: "Underground,") Paris (French title: "Metro,") and New York ("Subway.")

Written around the advance billing "Rapid Transit," the $41-million T.T.C. production will have "hit the road" (Yonge Street, that is) after nine years' intensive preparation.

Rivalling even cinemagnate Cecil B. deMille's "Cast of Hundreds" Hollywood extravaganzas, the show will feature thousands of stars and extras—hustling shoppers, workers, and just plain intra-city travellers—up and down the north and south of Yonge Street at the rate of 40,000 hourly.



STREET ENTRANCE to new building will provide access to mezzanine floor of Bloor Station. Bloor St. widening permits easy traffic flow on this busy thoroughfare

More Tickets

Despite all this—and the fact that "Rapid Transit" will sell more tickets, for a longer run, in Canada's biggest open-air theatre, than ever before—one of its most interesting and complex phases will go on backstage, completely out of sight of the audience.

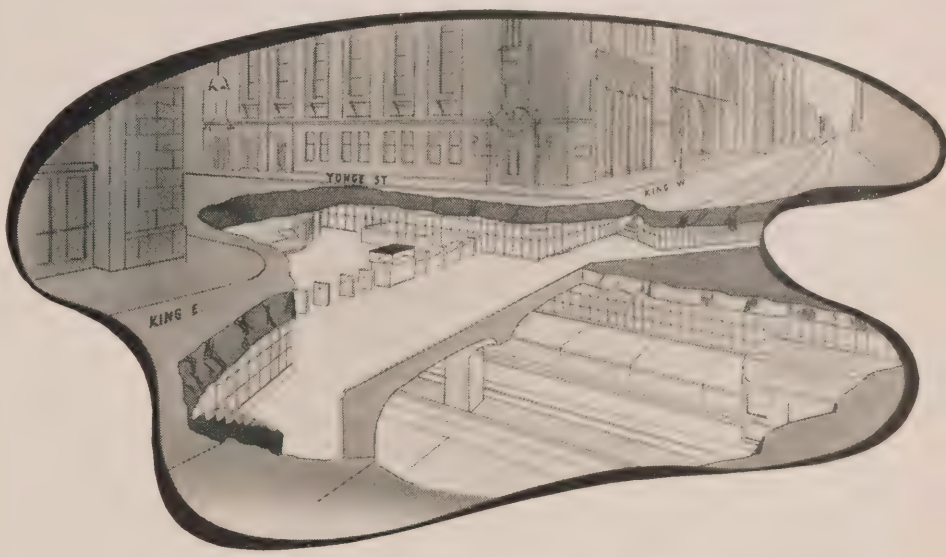
That phase will be the job done by "Rapid Transit's" stage electricians.

Lights, heaters, fans, pumps, escalators, and rapid scenery changes will be handled by a crack team of T.T.C. technicians skillfully juggling an estimated 17,295 kilowatts of 60-cycle electrical power.

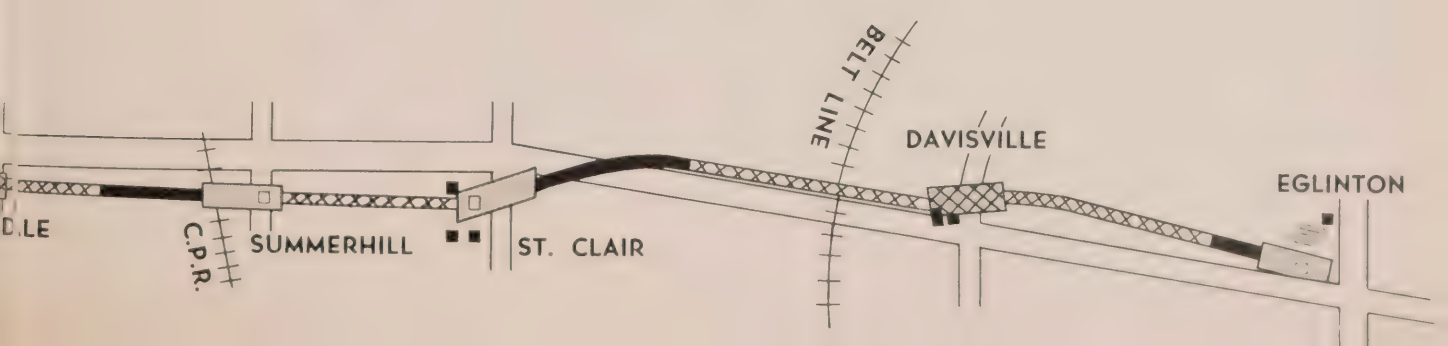
The lion's share of that load (16,000 kw.) will be used to put the show on the road—providing the necessary power to put and keep the underground trains in motion.

The remaining 1,295 kw. are required for heating, lighting, pumping, escalating, and what T.T.C. engineers term "miscellaneous use."

"In actual practice," said one of those engineers, "only 780 of those 1,295 kw. —or roughly 90%—will ever be in use at any one time. When the lights are on,



CUTAWAY VIEW, above, of King Street Station shows the arrangement of a typical downtown subway station—street entrances, mezzanine floor, and station platform.



Establish Hydro Scholarships

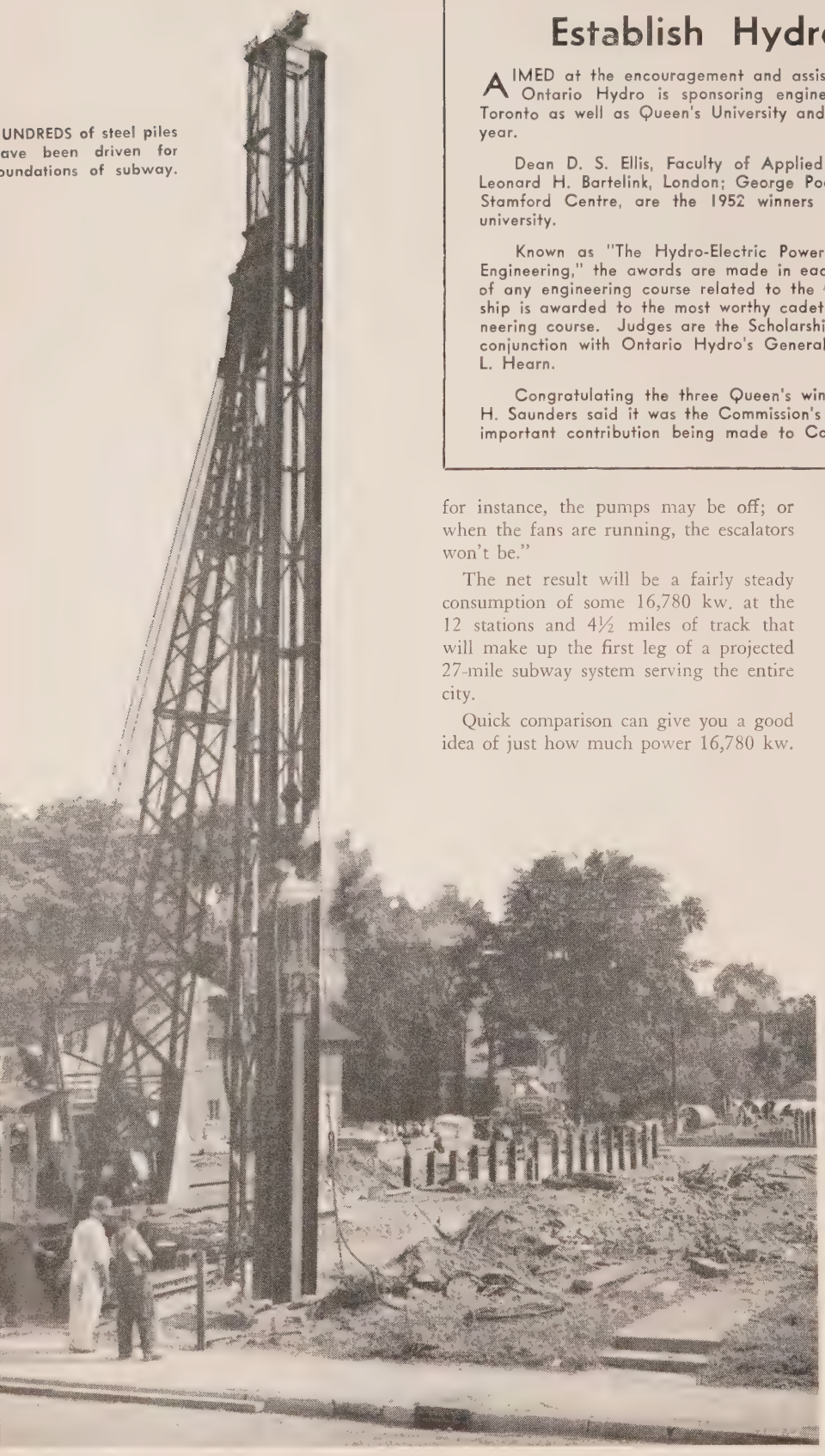
AIMED at the encouragement and assistance of promising engineering students, Ontario Hydro is sponsoring engineering scholarships at the University of Toronto as well as Queen's University and Royal Military College at Kingston this year.

Dean D. S. Ellis, Faculty of Applied Science, Queen's, has announced that Leonard H. Bartelink, London; George Podolsky, Hamilton, and Ernest R. Corneil, Stamford Centre, are the 1952 winners of the three $300 scholarships at that university.

Known as "The Hydro-Electric Power Commission of Ontario Scholarship in Engineering," the awards are made in each of the second, third, and fourth years of any engineering course related to the Commission's work. The R.M.C. scholarship is awarded to the most worthy cadet entering the fourth year electrical engineering course. Judges are the Scholarship Committees of the three institutions in conjunction with Ontario Hydro's General Manager and Chief Engineer, Richard L. Hearn.

Congratulating the three Queen's winners a few days ago, Chairman Robert H. Saunders said it was the Commission's hope that the awards would further the important contribution being made to Canada by the engineering profession.

UNDREDS of steel piles ave been driven for oundations of subway.



for instance, the pumps may be off; or when the fans are running, the escalators won't be."

The net result will be a fairly steady consumption of some 16,780 kw. at the 12 stations and 4½ miles of track that will make up the first leg of a projected 27-mile subway system serving the entire city.

Quick comparison can give you a good idea of just how much power 16,780 kw. represents—by bringing it down to the hall-light-and-kitchen-toaster level.

Power Consumption

When the switch is thrown for Canada's first subway Christmas, 1953, the drain on Ontario's Hydro resources will be greater than the peak demand for power made by the City of Niagara Falls in November, 1951.

In other words, it will take more Hydro power to run "Rapid Transit" than was required to meet the domestic, commercial, and industrial needs of a city of 13,573 people, when that demand was at its month's highest.

Much of that power—provided by Ontario Hydro's sweeping, multi-million-dollar expansion program—will go towards peace of mind for the travelling public.

In the running of Toronto's new "Rapid Transit", Ontario Hydro power will get you there in a hurry.

(Continued on page 18)





LEFT—While excavation was in progress, underground electrical cables as well as gas and water mains were carried on temporary supports as shown in this view of Queen and Yonge Streets intersection. BELOW—In a few months hundreds of subway travellers will be using Queen Station when new system is in operation.











ABOVE—Substantial progress is evident when this view of Queen Station is compared with the photo above. RIGHT—Giant shovel is engaged in "final lift" excavation at southern terminal of Canada's first subway.



HIGH level subway platforms will be located as close as possible to street. Escalators will facilitate movement of passengers at stations where long stairways are necessary.

STUDYING model of supervisory control board which will regulate power supply to subway and all substations are Engineer R. G. Brown, Arlene Brown, and Harold Preston, draftsman.



It will also help get you there in one piece.

Safety Devices

Elaborate, electrically-operated safety devices include a chain of emergency alarm boxes strung out at 500 to 800-foot intervals throughout the entire system. The pull of a switch in any one of these boxes will automatically cut the power being fed to the "third rail," and flash an alarm to the Supervisory Control Board. Each box will come equipped with a telephone and direct line to Control GHQ—facilitating on-the-spot, split-second reports in case of emergency.

Actual train operation will be safeguarded by an Automatic Wayside Signal, with lights flashing red (for "Full Stop,") amber (for "Go Slow,") and green ("Clear Tracks.") A special mechanism associated with each signal will automatically enforce the "Full Stop," and a similar set-up will make it mechanically impossible to overstep speed regulations on down-grades.

Under the Supervisory Control system, all breakers supplying traction power—a 600-volt direct current—to all sections of the subway will be controlled by a centrally-located load despatcher.

Standby Batteries

And power break-downs for lights are safeguarded against by standby batteries located at each passenger station.

When passengers pour onto the 500-foot station platforms from the three sliding doors in "Rapid Transit's" cars, their footing will be all but guaranteed—not only by flush car-floor platform levels and non-skid tile, but, also by end-to-end tubes of aluminum, dust-proof fluorescent lighting.

To ensure safety-through-maintenance—as well as making frequent inspection as economical as possible—subway cables will be individually racked along the wall structure. This is the European method, and was found more practical than the "bank ducts" system in use in the United States.

Power for the trains themselves will be supplied by five sub-stations. These will received 13,200 ac. volts, converting that power in mercury rectifiers, and piping it out to the trains at 600 dc. volts through a positive contact "third rail" protected by an insulator guard.

"Strap-Hanger" Obsolete

Those rails, the cars themselves—in fact everything to do with rolling stock—have been designed to make the term "strap-hanger" obsolete.

"Rapid Transit" will be the world's



first subway to "float" trains on rubber or resilient tie pads, using rubber-mounted coach trucks, and enabling passengers—say the designers—to stand unassisted, even on curves.

The 57-foot cars, which cost a whopping $75,000 each, will seat 62 and stand 120 passengers comfortably, running in anywhere from two to 8-car trains.

And if your interests run to what's gone into "Rapid Transit"—the day they throw the switch—here's a rough list of "props" for what most sidewalk superintendents will tell you is the "greatest show in town":

Structural steel	10,000 tons
Reinforcing steel	12,500 tons
Rail steel	3,850 tons
Cast iron pipe	1,170 tons
Track materials	800 tons
Lumber	10,000,000 board feet
Cement	1,140,000 bags
Sand	145,000 tons
Gravel	150,000 tons

That's the rough break-down of "Rapid Transit" props that can be trucked, sawed, welded, shovelled, and poured, while thousands of future travellers daily stand back and "sidewalk" supervise.

The big job being done by the big show's stage electrician's—the engineers whose blueprint know-how is backed by the ready power supplied by Ontario's immense hydro expansion—will go on backstage today and tomorrow, and as long as Toronto's "Rapid Transit" itself.

When the switch is finally thrown at the show's Canadian premiere Christmas, 1953, Ontario Hydro power will be there behind the scenes to get hundreds there quickly—and in safety—in Canada's first subway.



TYPICAL MEZZANINE FLOOR showing ticket booth and turnstiles. Floors are terrazzo and fixtures concealed in the ceiling provide well-diffused lighting.

EGLINTON STATION WILL BE NORTHERN TERMINAL OF RAPID TRANSIT LINE.



Join Quarter Century Ranks



TWO employees of Stratford Public Utilities Commission recently joined the ranks of the P.U.C. Quarter Century Club.

In recognition of 25 years' capable service, Miss Eva Hoffmeyer and Harold D. Duggan were presented with engraved watches at a dinner in the Y.M.C.A. banquet hall attended by commission employees and their ladies. The presentations were made by Commissioner Norman Siegel who welcomed the two new quarter century club members.

The Stratford P.U.C. annual dinner is becoming almost an institution, Commission Chairman W. F. Nickel stated in welcoming the guests, and provides a pleasant opportunity of getting better acquainted.

"We are just one large family working for the welfare of the community", he said.

(Continued on next page)



ABOVE—Two more employees, Harold D. Duggan, left, and Miss Eva Hoffmeyer, Stratford PUC, became Quarter-Century Club members at the employees' dinner on April 29th. Presentation of gold watches recognizing their service was made by Commissioner Norman Siegel. UPPER PHOTO: The "Hydro Quartet", complete with bow ties and horn-rimmed glasses, delighted the audience with a variety of "original numbers." Left to right—Duncan MacNicol, Robert Butler, William Ellison, and Grant Stickney.

(Continued from page 20)

The speaker also referred to the fact that the Stratford Commission would be taking over the city's transportation facilities at an early date.

Turning to the operations of the commission, Mr. Nickel stressed the "maximum planning and co-operation" necessary to carry out changeover to 60-cycle power successfully. This work, he said "is going along smoothly and well."

In presenting the watches to Miss Hoffmeyer and Mr. Duggan, Mr. Siegel stated that there are now 20 active and seven retired members of the quarter century club. Miss Hoffmeyer became associated with the P.U.C. on April 18, 1927, and Mr. Duggan on Oct. 18, 1927.

Program chairman was General Manager A. B. Manson, who introduced those at the head table and guests. A toast to the ladies was proposed by E. A. Washburn and responded to by Miss Clara Sproul. A special presentation was made by Commissioner A. R. Moore to Thomas Pigeon in honour of the recent birth of a daughter coinciding with the date of this banquet.

During the program, Helen Landreth contributed two solos, accompanied at the piano by Gordon Scott. Community singing was led by Miss Hoffmeyer with Miss Edith Shaw at the piano. Miss Shaw was also accompanist for the "Hydro Quartet," which rendered two selections —"Clear Up Their Troubles" and "Working for Hydro" each with a definite local flavour. Members of the quartet were Grant Stickney, Duncan MacNicol, Robert Butler, and William Ellison. The group also enjoyed the amazing tricks of magic performed by Mr. and Mrs. G. Pepper. The thanks of the employees to the commission were extended by J. Richardson.

HONOR REX MARTINDALE

(Continued from page 10)

in the Hydro field, and their contribution to Canada's steady growth.

Mr. Saunders concluded his remarks by placing Mr. Martindale in the first rank of these engineers who had built Ontario to its present status, and with the phrase, "Rex Martindale — a wonderful man." Those present echoed this sentiment with a burst of spontaneous applause.

I Wish I'd Said That!

A game to increase and improve your vocabulary

BY LINCOLN HODGES

HERE'S an exercise in the art of conversation. First comes a statement made *to* you; then three replies *you* might make, only one of which proves that you get the drift. If you pick 9 or 10 right, you're superb; 8, just wonderful; 7, average-plus. Correct answers are explained below:

1 They've arrested the *filibuster.*
(A) *The speech is stopped?* (B) *The pirate's in prison?* (C) *The guerilla's been grabbed?*

2 What a *trencherman!*
(A) *Can he carve!* (B) *Can he dig!* (C) *Can he eat!*

3 He can't *assimilate* that formula.
(A) *It's inimitable.* (B) *It's indigestible.* (C) *It's imponderable.*

4 Things are in a state of *flux.*
(A) *All confused.* (B) *Changing constantly.* (C) *In a rut.*

5 He enjoys their *adulation.*
(A) *They sure trust him.* (B) *They do love him.* (C) *They just flatter him.*

6 *Apathetic,* isn't he?
(A) *So diffident!* (B) *So difficult!* (C) *So indifferent!*

7 I'd like to *mesmerize* you.
(A) *You're a mind reader?* (B) *You're a hypnotist?* (C) *You're a fortuneteller?*

8 Have you seen my *prodigy?*
(A) *Lost your apprentice?* (B) *What a big family?* (C) *Gosh, a two-headed calf!*

9 That's a *morbid* remark.
(A) *I didn't mean to insult you.* (B) *I wasn't being sarcastic.* (C) *Guess I'm just a pessimist.*

10 We're meeting in the *rotunda.*
(A) *The red room?* (B) *The round room?* (C) *The rest room?*

ANSWERS

1 **A,B,C**—A filibuster (FILL-ih-bus-ter) is from the Dutch word for buccaneer, and may mean a pirate, or a guerilla, or a speech made in a legislative body (especially in the U.S. Senate) to delay the passing of a law.

2 **C** A trencherman (TREN-cher-mun) is a big eater; it is derived from a French word meaning platter.

3 **B** To assimilate (uh-SIM-ih-late) is to absorb, or to take in and make like oneself. It comes from the Latin *similis* meaning *like,* and is akin to similar.

4 **B** A flux (pronounced with the *u* as in *cut*) is a flow. In this sense, it means a constant movement or changing, as in a flowing liquid.

5 **C** The Latin *adulari* meant to to fawn on; adulation (AD-yuh-LAY-shun) is overextravagant praise or flattery.

6 **C** Apathetic (AP-uh-THET-ick) means emotionless; the Greek *a* means without, and *pathos* means suffering.

7 **B** Mesmer, the name of a German physician who did research on hypnotism, gave us the word mesmerize (MEZ-mer-ize), meaning hypnotize.

8 **C** A prodigy (PROD-uh-gee) is something extraordinary; any marvel of nature. The word is often applied to a brilliant child, but only because he is unusual.

9 **C** Morbid (MORE-bid) is from the Latin *morbidus,* diseased. It means gloomy, or pessimistic; also, it means caused by disease, or unwholesome.

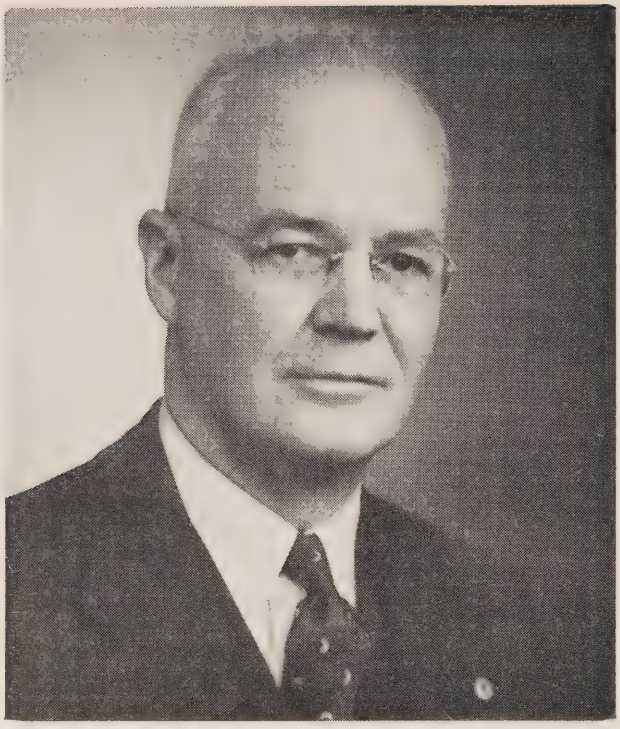
10 **B** A rotunda (ro-TUN-duh) is a large, round room, especially one below a dome like that of the U.S. Capitol in Washington.

Reprinted from Cosmopolitan

Appoint Rates Study Engineer

★

A. W. Murdock Named to Head Important Commission Department



A. W. MURDOCK, P. Eng.

DESIGNED to provide a source of up-to-date information, backed by reliable, substantiated data, which will assure adequate revenue through rates based on an equitable distribution of costs to the various classes of customer, the appointment of A. W. Murdock, as Rate Study Engineer of its Consumer Service Division, has been announced by Ontario Hydro.

The necessity of this appointment has been stressed in recent years by the Commission's rapid expansion, increased capital expenditure, and the introduction of steam generation. In taking this step, the Commission was acting, also, on the advice of its consultants and the Rates Committee of the Association of Municipal Electric Utilities.

In his new and important capacity, Mr. Murdock will have as one of his chief functions the study of Hydro's present rate schedules, supported by adequate test data, to determine the accuracy of the various factors and assumptions on which the schedules are based.

In addition, he will co-operate in studies of present load trends, and appraisal of future trends, in order to be in a position to recommend changes in the rate structure which may seem desirable from time to time. Mr. Murdock's responsibilities will entail an intimate knowledge of accepted practices, elsewhere, in order that Hydro's rate structure may keep pace with advanced thinking in this field. He will undertake, also, the development of a rate structure that will be sound from both an engineering and economic standpoint, yet simple enough to be readily understood and accepted by the customer.

As head of the new Rate Study Department, Mr. Murdock will be closely associated with the Consumer Service staff in the Regional Offices and with the managers of the municipal systems—especially those serving on the A.M.E.U. Rates Committee. The staff of this department, which will be augmented gradually to assemble and assess the value of the data and to initiate studies as they become apparent, also will have frequent contacts with various divisions of the Commission in the study of technical and statistical data that has a bearing on rates.

Mr. Murdock, formerly Assistant Manager of Personnel, brings to his new post a broad background of Commission experience, covering a period of some 33 years.

Born in Amherst, N.S., he received his early education there, graduating in Arts from Mount Allison University in 1913. In 1916, he received his B.Sc. degree in electrical engineering from McGill University. During World War I, Mr. Murdock served in France and England as a Lieutenant with the Canadian Engineers (Signals), joining the Commission's Municipal Engineering Department in 1919. From 1941 to 1947 he was a District Engineer. Since 1947 he has held the position of Assistant Manager of Personnel.

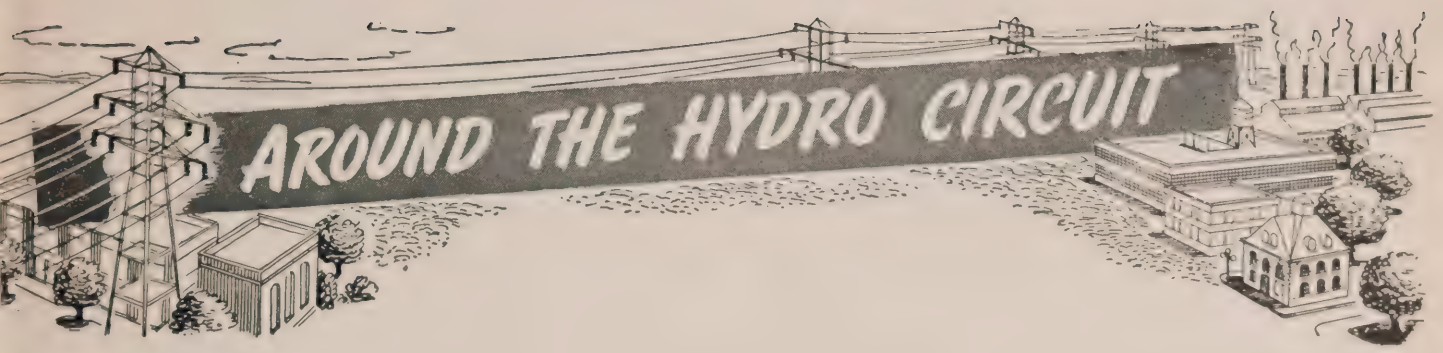
Active in engineering circles, he is serving his second term as an Electrical Councillor of the Association of Professional Engineers, and is a Past Chairman of the Toronto section of the American Institute of Electrical Engineers.

CHATHAM SURPLUS

A SURPLUS of $38,206.65 on 1951 operations was announced recently by Roy S. Reynolds, Secretary-Manager of Chatham Public Utilities Commission.

The excess of assets over liabilities amounted to $1,553,695.05, Mr. Reynolds stated, while the outstanding debenture balance due to the city was $446,075.85.

The surplus for 1951 was approximately $10,000 greater than the previous year and was due, Mr. Reynolds stated, to a normal increase in revenue due to business conditions, and the reduction of fixed payment for debentures and interest by $14,500 through two final debenture payments in 1950.



Western Ontario Expansion

KEEPING ABREAST of the increasing power requirements of industrial and other customers in that area, Ontario Hydro is at present installing a third large transformer at its E. V. Buchanan Station at Westminster, near London. It is expected to be in service by November of this year, at which time the third unit of the J. Clark Keith Generating Station at Windsor is scheduled to be in operation.

The booming industrial tempo of Western Ontario is reflected in deliveries of power to such centres as London, St. Thomas and Sarnia. In 1945, London's energy consumption totalled 184,074,140 kilowatthours, while last year deliveries had increased to 248,357,855 kwhrs., a jump of 35 per cent.

Construction of the E. V. Buchanan station was started in the fall of 1947, and in November of the next year, the first 115,000-volt, 60-cycle power was received from the Polymer Generating Station at Sarnia. At present the two auto transformers at the station are operating close to capacity.

The new transformer — similar to the two already installed — will be used to step-down 60-cycle power from 230,000 to 115,000 volts for use in those areas which have been converted to 60-cycle power and in other locations, where some industries are now receiving 60-cycle power in advance of Hydro's frequency standardization program.

"Hydro Building" C.N.E. Feature

WHEN the Canadian National Exhibition opens in Toronto on August 22 this year, visitors to the big show will find that the former Railways Building has a new name!

Henceforth, it will be known as the "Hydro Building," C.N.E. Directors announced recently, and will house the displays of both Ontario Hydro and the Toronto Hydro-Electric System.

In former years, exhibits of both commissions have been located mainly in the Electrical Building near the Princes' Gate. Last year, however, it was necessary to place some Ontario Hydro displays in other C.N.E. buildings, due to the heavy demand for space in the Electrical Building.

As a result, negotiations have been completed to relinquish space in the Electrical Building and to concentrate all displays in the former Railways Building which is situated just east of the C.N.E. Administration Building near the Fountain.

Ontario Hydro's exhibits this year will be featured by a model of the projected St. Lawrence Seaway and Power Project; an animated model of the Niagara Power Project; a frequency standardization display; an old and new kitchen, and the model of the Horseshoe Falls at Niagara which attracted so much attention at last year's "Ex." Further details on the 1952 display will appear in a forthcoming issue of *Hydro News*.

Edward M. Ashworth Honored



E. M. ASHWORTH

Edward M. Ashworth, for 27 years General Manager of the Toronto Hydro Electric System, was presented recently with a plaque by Mayor Lamport on behalf of the Toronto City Council and the citizens of Toronto in token of his long and loyal service to the city.

LONDON HYDRO PIONEER DIES

CHARLES W. ALFORD, 76-year-old London Hydro construction pioneer, was recently killed when his car and a bus collided head-on nine miles west of Schenectady, N.Y.

Mr. Alford retired as line superintendent of the London Public Utilities Commission in 1942, after 40 years as electrical supervisor. He leaves two sons and two daughters.

Just because you are making money is no sign you are making good.

Maybe You'll Laugh Too!



A man standing on Auburn Avenue was talking to an elderly darky.

"What kind of work do you do, Rastus?"

"I owns a hand laundry, I does."

"Where is it located?"

"Dere she comes now!"

There's one way to surely prove
If you are man or mouse.
Spend the winter on a farm
Where the plumbing is outside the house.

Clerk (to doubtful looking couple at hotel desk): "I question if you two are really married."

Girl: "I'd like you to know if my husband was here he would make you eat them words."

Two privates paused at the side of the road to puzzle over a dead animal they saw there. "It has two stripes," said one. "That settles it," said the other. "It's either a skunk or a corporal."

"Are you saving any money since you started your budget system?"

"Sure. By the time I get it straightened out every evening, it's too late to go anywhere."

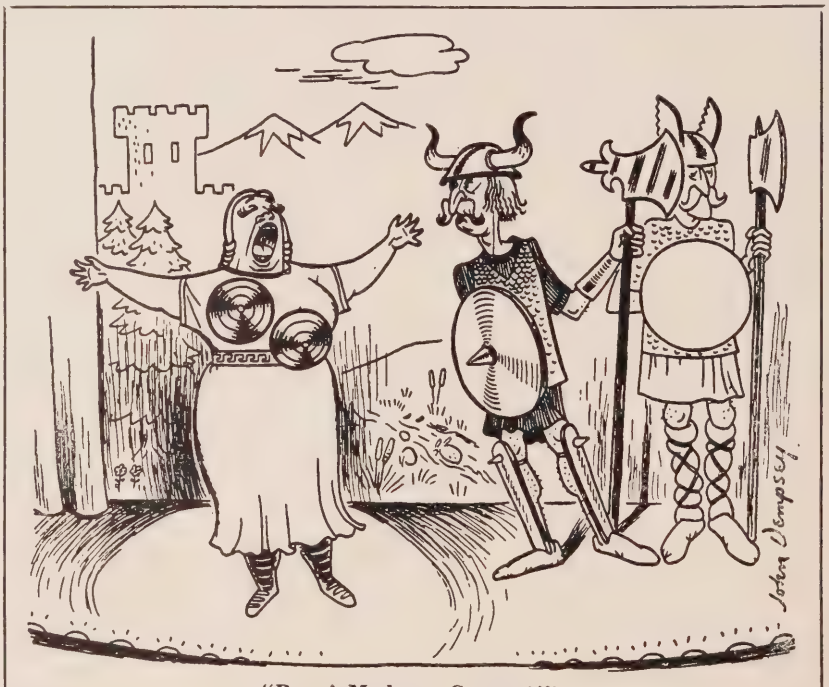
A drunk staggered out of a tavern and bumped into a lamp post. Cautiously, he felt his way completely around it. Then with a deep sigh, he slumped down on the curb and said, "S'no use, I'm walled in."

Two Scotch friends had been drinking merrily for some time when suddenly one lost his grip on the bar and fell face down on the floor. "Aye, laddie," said his companion to the bartender, "that's one good thing about Jock. He always knows when to stop."

Luke saw an act where a man sawed a woman in half. He went home and practiced on the family. Now he has two half brothers and two half sisters. (If I'd known it was that bad I wouldn't have written it!)

Child: "Just think. David's father is 42 and still alive."

"Did your wife come from a good family?" "No, she brought it with her."



"Psst! Madame Gasponi!"

Reprinted from *Cosmopolitan*.

You can run into debt, but from there on you have to crawl.

Beaming with happiness over the enthusiastic reception his campaign address had received, the veteran politician bowed himself off the stage and into the midst of his faithful co-workers who awaited him in the wings.

"That speech was great," cried one starry-eyed supporter. "You certainly made yourself clear on the provincial rights question."

"My gosh" muttered the old campaigner, "what a blunder!"

During the early days of the old West the justice of the peace determined a man's fine via a Sears Roebuck catalog.

One day, confronted with a minor case, a justice thumbed through the pages of the catalog and put his finger on the price of a kitchen utensil.

"$4.98 fine," he said.

The defendant rose to protest. "Sit down!" his lawyer cautioned. "You're danged lucky he didn't turn to the piano section!"

A comrade at a Red meeting: "Mr. Speaker what happens to my unemployment compensation checks when we overthrow the government?"

He: "Whisper those three little words that will make me walk on air."

She: "Go hang yourself."

hoto-news



Install Underground Lines

STALLATION of three underground lines, the first in ne city, was completed recently by Windsor Utilities mission. Two of the lines, which carry power at 27,000 ., run from Ontario Hydro's transformer station on rwford Avenue to the local commission's sub-station at rwford and Wyandotte — a distance of approximately 900 e. The third line connects with overhead lines at the sub-station for transmission to additional sub-stations.. new undertaking for the local commission, the cable lers employed on the job were given special courses to iliarize them with new techniques required for the project. he above picture three Windsor Hydro officials are ining the installation which connects the third line to head wires. Left to right: George Burgoyne, Assistant e Chief Engineer; W. Alex Shaw, Chief Engineer; and ey Armour, Superintendent.

"Force for the Fortissimo"

MRS. LESLIE HANNA, organist at Christ Anglican Church, Ayr, can take it easy now that her husband and two other male members of the congregation have rigged up an electric motor to provide "force for the fortissimo." The humble vacuum cleaner, domestic variety, is the work saver. Mr. Hanna and his friends attached a long tube to the organ bellows and connected it to the vacuum cleaner in the basement. The result is louder, clearer tone than ever before, and, of course, a fresh-as-a-daisy organist at the end of the service. The "inventors" of this unique power source are pictured below with their labor-saving vacuum. Left to right — Leslie Hanna, Arthur Leiska (kneeling), and George Biggerstaff.

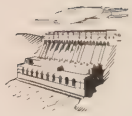




NIAGARA TWINS



VOLUME 39 JUNE - JULY, 1952 NUMBERS 6 & 7



ONTARIO HYDRO News



JUNE-JULY, 1952

VOLUME 39 NUMBERS 6-7

Published by

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 University Avenue, Toronto

An Important Decision

ADDRESSING delegates at the annual convention of the Canadian Weekly Newspapers Association recently, Hydro Chairman Robert H. Saunders made the significant announcement that the Commission had authorized the second stage of its important Sir Adam Beck project near Niagara Falls.

The second phase of this project, the largest ever undertaken by Ontario Hydro, will involve, among other things, the building of the second 5½-mile tunnel to convey the water from a point above the Niagara cataracts to the generating station on the lower Niagara River.

The combined resources of both stages, totalling approximately 1,200,000 horsepower, will, it is anticipated, become available by 1956. The first stage of this mammoth development, on which work commenced last year, is scheduled to deliver its full output of 700,000 horsepower by 1955, with 400,000 horsepower in service by 1954.

In discussing the question of reserve resources, Mr. Saunders stressed the fact that the additional expenditure at Niagara did not, in any way, minimize the paramount urgency of proceeding with the development of the power resources of the St. Lawrence River.

He pointed out that work must be undertaken on the St. Lawrence project during the coming winter, or the early part of next year, if Ontario is to have power available in 1958 and the years immediately following.

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COVER PHOTOS

CAPTURING the spirit of the summer season is the peaceful rural scene on this month's front cover which was recorded by Hydro Photographer J. B. Helling on one of his frequent trips through the beautiful Ontario countryside. We also acknowledge the courtesy of the Ontario Department of Highways in loaning us the photograph for our back cover which depicts a picturesque section of the Naiscoot River north of Parry Sound.

NOTE TO EDITORS: Material published in Hydro News may be reprinted without permission. Photos or stereos will be forwarded on request.



Hydro's Otto Holden Generating Station, situated in a picturesque section of the Ottawa River, is a photographer's paradise. Standing on top of the 2,500-foot main dam, Staff Photographer Merner Ritz took this dramatic shot of excess water pouring through the spillway section.



VETERAN HYDRO EMPLOYEE Vance Bilton was accorded honor of pressing button to officially place in operation first of station's eight units as Ontario Prime Minister Leslie Frost, left, Hydro Chairman Robert H. Saunders and Dr. Otto Holden smile approval.





Another Link in a Long Chain

ANOTHER memorable chapter in the colorful history of the Ottawa River was recorded on June 10 when the 273,000-horsepower Otto Holden Generating Station near Mattawa officially joined Ontario Hydro's rapidly-growing system.

Named in honor of the Commission's Assistant General Manager—Engineering, Dr. Otto Holden—a leader in the field of hydraulic engineering—this massive hydro-electric development is the 13th new source of power placed in service since Hydro launched its epochal, billion-dollar expansion program in 1945.

From the early days, when the first white explorer penetrated the forest wilderness, the Ottawa has reflected the gradual changes in Canada's economic pattern. Down its rushing length, from Lake Temiskaming to the St. Lawrence, have passed many of the romantic figures of Canadian history. On its surface have moved the products of the great industries which were the basis of this country's wealth.

Fur Trade

In 1613 Samuel de Champlain, himself, made the trip up the river with Etienne Brule as his guide. Over this same route flowed the great fur trade of the 18th century. Then the fur traders' canoes were gradually supplanted by huge log booms in the 19th century.

(Continued on page 4)

VIEW OF MAIN DAM AND POWERHOUSE AT OTTO HOLDEN GENERATING STATION.



SPECIAL BUSES brought guests to attend the brief, but impressive opening ceremonies.



APPROXIMATELY 900 people, from many parts of Ont witnessed the opening ceremonies held in new powerho



Today the role of the Ottawa is predominantly associated with the production of hydro-electric power.

Indicative of this is the fact that the Otto Holden station is the third of the Commission's new Ottawa River power sites brought into operation since the end of World War II. The two other major developments were the 509,000-horsepower Des Joachims Generating Station and the 160,000-horsepower Chenaux plant. Thus, with completion of the Otto Holden station early in 1953 the Commission will have harnessed the turbulent upper reaches of the great river fully for the first time to produce a total of 942,000 horsepower.

Demonstrating in most eloquent fashion the efficient and economical use of the power potentialities of a river is this new chain of Hydro plants on the Ottawa.

Its swift waters now pass through the

(Continued on page 7)

FEATURED by hearty applause and the flash of photographers' bulbs, the climax of the ceremony was the pressing of a button to officially place the station's first unit in service.

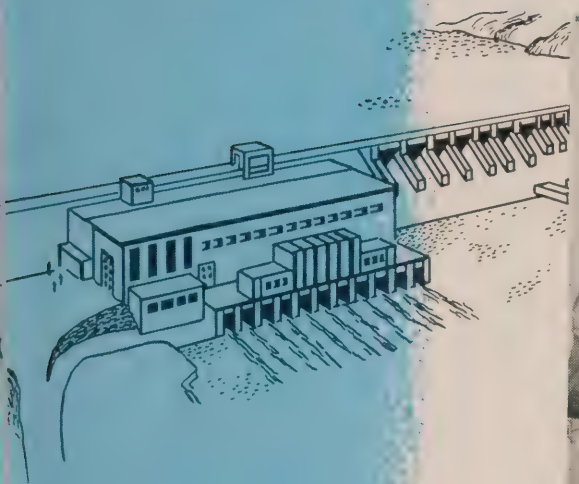


PRIME MINISTER FROST presented bouquet of roses to Mrs. Otto Holden, wife of Hydro's Assistant General Manager—Engineering in whose honor station was named, shown standing next to Ont. Hydro. Chairman Saunders.



AT THE LUNCHEON following the ceremony, head-table guests were photographed, left to right, Hon. Welland S. Gemmell, Ont. Minister of Lands and Forests, Chairman Saunders, Premier Frost, Mrs. Holden, and Dr. Holden during short address by Col. Carlton Proctor, New York, President, American Society of Civil Engineers, who attended the opening.

ANOTHER SECTION of head table included these guests, l. to r., G. W. Rayner, Hon. George H. Challies, Hydro's First Vice-Chairman; W. B. Crombie, Project Manager, Otto Holden project; C. G. Southmayd, C. A. Clancy, Canadian Niagara Power Corporation; Dr. Richard L. Hearn, General Manager and Chief Engineer, Ontario Hydro, and W. D. Bracken, who also represented Canadian Niagara Power Corp. at ceremony.





REPRESENTING nearby Town of Mattawa, this group, which includes John Crozier, Osborne McCluskey, Albert Hurdman, Conrad Theoret, Charles O. Hisey and A. J. Belanger is shown examining one of the panels in the control room at new plant.







DURING INSPECTION of powerh
lowing official opening, the Hyd
photographer "caught" Norman
field, Galt P.U.C.; W. A. Ollen-Bi
Hydro, North Bay; Allan Howard,
and S. R. Walkinshaw, Orillia
chatting in station's gleaming cont

GUESTS manifested keen interest in facilities of



FOUR of the ultimate eight units were in operation when the station was officially opened.



THIS SPILLWAY SECTION in main dam, capable of discharging 800,000 gallons per second, serves to control water level in forebay.



THIS PHOTO, taken in 1948, shows site of the Otto Holden Generating Station, known at that time as LaCave Rapids.

Otto Holden plant, flow downstream some 57 miles to the Des Joachims G.S., another 87 miles to the Chenaux G.S., repeating the sequence of power generation at each station.

Chats Falls Plant

In addition, the Ottawa River produces power at the Chats Falls Generating Station, 33 miles upstream from Canada's capital City of Ottawa, and 26 miles below the Chenaux plant. Owned and controlled jointly by Hydro and the Ottawa Valley Power Company, the 228,000-horsepower Chats Falls station was completed in 1932. Under present purchase-contract arrangements, the entire output is delivered to Ontario Hydro.

The upper reaches of the Ottawa River, thus will produce a total of 1,170,000 horsepower when the Otto Holden Generating Station is in full operation next year.

The official opening ceremonies on June 10 climaxed more than three years of intense activity which commenced in February, 1949. The $60 million project, with four of its eight units in operation at the time it was officially launched on its career of service to Ontario, features one of the longest main dams—2,500 feet in length with a maximum height of 130 feet above solid rock—ever built by Hydro.

Picturesque Situation

Picturesquely situated against an awe-inspiring background of towering, pine-clad hills, the main dam has its foundations firmly set in a comparatively shallow

(Continued on page 8)



PART OF THE engineering "team" which made the great plant a reality. Left to right, R. M. Fullerton, Electrical Project Engineer; A. E. Aeberli, Mechanical Engineer; B. D. Poyser, Project Engineer; R. D. Wardell and T. G. Willows, Assistant Project Engineers.

rock-floored section, known formerly as LaCave Rapids. The powerhouse, straddling the inter-provincial boundary, is an integral part of the main dam structure which extends from the Ontario to the Quebec side of the river.

On the Quebec side there is a 1,240-foot spillway section, consisting of six, 40-foot wide sluices, with steel sluice gates, and 42, sixteen-foot wide, stop-log sluices, with a maximum operating discharge of some 800,000 Imperial gallons per second.

To divert water from the dam site, cofferdams were built at the upper and lower limits. A diversion channel entailing the removal of 790,000 cubic yards of rock and earth was excavated through the east bank of the river to bypass the rushing waters of the mighty Ottawa during construction.

The operating head of 81 feet at the dam required the raising of the natural level of the upstream pool by some 78 feet. This created an artificial lake 30 miles long and a half-mile wide, extending upstream to Lake Temiskaming. The area of the headpond is approximately 8,000 acres.

Railway Diversion

This necessitated the relocation of 37 miles of the Canadian Pacific Railway between Mattawa and Temiskaming, Quebec, and the reconstruction of three miles of Highway No. 63, running between North Bay, Ontario, and Temiskaming, Quebec. An access road over five miles in length from Mattawa to the development site was constructed jointly by the Ontario Department of Highways and the Commission. This work included construction of bridges across the Mattawa River and Antoine Creek.

Due to its position, located strategically between power centres of Southern and Northern Ontario, the Otto Holden station will be a vital link in the transmission of electricity throughout the province. Existing high tension lines provide interconnection between the George W. Rayner G.S. on the Mississagi River near Thessalon, through Sudbury to Otto Holden G.S., and south to the heavy power-consumption areas of Southern Ontario.

When lines are eventually built from Sudbury to Alexander G.S. (on the Nipigon River) by way of Aguasabon Generating Station, near Schreiber, there will exist a vast interconnection from Shipshaw on the Saguenay River in Quebec to within a few miles of the Manitoba border, and south to the United States. This connection of all generating stations in Ontario will enable the Commission to transmit power as day-to-day demands dictate—an important development in view of Ontario's tremendous industrial growth and increasing population which are resulting in steadily mounting demands for electric power.

Opening Ceremonies

The impressive opening ceremonies, held in the gleaming new powerhouse, were witnessed by an audience of some 900 interested spectators, including several cabinet ministers and members of the Ontario Legislature; representatives of labor organizations; leaders in the industrial and commercial field; municipal representatives, including the members of the council of the nearby Town of Mattawa; members of the O.M.E.A. and A.M.E.U., as well as the Ontario Hydro-Electric Advisory Council; press and radio representatives, and many of the men, who, by their labor, made the great plant a reality.

Declaring the plant officially open, Ontario's Prime Minister, Leslie M. Frost, who was introduced by Hydro Chairman Robert H. Saunders, Master of Ceremonies, said the new station is "another great unit of our expanding Hydro system," symbolizing the growth that is taking place in Ontario.

Referring to the progress Hydro had made in developing this province's power resources, the Premier said Ontario citizens can look a short distance into the future and see the completion of the additions at Queenston on the Niagara River, and the development of the mighty St. Lawrence River where another million and a quarter horsepower "awaits our enterprise."

No Doubts

"To those in other lands who have any doubts as to our capacity to do the St. Lawrence job, I say come to the Ottawa and see what has been done here in a less number of years than the fingers of one hand, in that period of time financed, completed, and in operation," he said amid enthusiastic applause.

Continuing, he dealt briefly with the industrial and mining operations in various parts of Ontario, as well as the in-

MECHANICAL "BRAIN"



BEING INSTALLED at the University of Toronto's Computation Centre, the $225,000 electronic computer is expected to be ready for operation early in September. A view of the mechanical brain, used for working out complex problems in mathematics, is shown here. Weighing six tons and containing 4,000 electronic tubes and some six miles of wiring, the computer's multiplication time is 2.2 thousandths of a second while its addition time is 1.2 thousandths of a second.

creasing requirements of agriculture.

All of these things, he said, need power for an Ontario of more happy homes and for a further better standard of living for her people.

"It is a very great pleasure to take part in the opening of this plant which will make its contribution to our way of life and which, in its name, honors Dr. Holden, one of our great hydraulic engineers. In honoring him we honor our technical men and workmen who make all this possible," Premier Frost stated in conclusion.

1943 Agreement

In his introductory speech, Chairman Saunders said that the new station is the last development to be brought into operation on the Ottawa River under the 1943 agreement between Ontario and Quebec, and "is symbolic of the co-operation which exists between the two great provinces."

Referring to the honor conferred on Dr. Holden in the renaming of the station, Mr. Saunders said he exemplified the spirit of co-operation that exists among the 865 professional engineers associated with the Commission.

"Today's event marks the culmination of years of work. It is the result of a wonderful spirit of co-operation that exists between labor and management, the supplier and purchaser of equipment as well as the engineer and the contractor."

Ontario Hydro's postwar program, costing over a billion dollars when completed in 1955, is bringing more power to people of every occupation in Ontario, the speaker continued, making possible the tremendous upsurge in industrial output. Within six years—from 1945 to 1951—the gross value of manufactured products in Ontario increased from a figure of some $3,965,000,000 to something like $8,600,000,000, he pointed out.

Domestic Consumption

Indicating the high standard of living in Ontario is the average annual electrical consumption of domestic customers, Mr. Saunders stated: In 1951, home consumption in this province averaged 3,960 kilowatthours per domestic customer while the United States average was 2,004 kwhrs.

Stepping to the microphone to acknowledge the tributes paid him by Premier Frost and Mr. Saunders, Dr. Holden expressed his happiness in the honor the Commission had conferred on him in giving his name to the new station.

"I feel that I am the symbol or representative of all those people whose names and skills are identified in one way or another with this plant."

In tendering his thanks to the "Hydro team" whose work and skills "all find expression in this magnificent project," Dr. Holden quoted the words of Longfellow in his poem, "The Builders":

"All are architects of Fate,
Working in these walls of Time;
Some with massive deeds and great,
Some with ornaments of rhyme."

Continuing, the speaker expressed the Commission's gratitude to Quebec officials "for their great help and courtesy during our negotiations and during actual construction," and to representatives of the Ontario and Federal Governments and of the Canadian Pacific Railway for their assistance.

Veteran Employee

As Dr. Holden concluded his address, Chairman Saunders called to the dais a veteran Hydro employee, 75-year-old Vance Bilton, concrete inspector on the

(Continued on page 24)



INSPECTOR Vernon Page, Director, Toronto Traffic Safety Council, right, recently spoke on safe driving before 500 drivers of the Commission and Canadian Comstock Company. Shown above are, left to right: Bill Camm, Transport Supervisor C.C.C.; Walter Moyer, Trans. Supt. C.C.C.; E. F. G. Bird, Trans. Supervisor, and Inspector Page.

Every 72 Hours

EVERY 72 hours, approximately 300 people lose their lives in the United States through traffic accidents.

These startling figures were quoted by Inspector Vernon Page, Traffic Division, Toronto Police Department, who addressed over 500 drivers of the Commission and Canadian Comstock Co., at the A. W. Manby Service Centre, Islington, recently.

"The number of people killed in the United States since the automobile appeared on the streets, is well over the 1,000,000 mark, or roughly twice the total of American servicemen killed in both World Wars," Inspector Page stated.

Inspector Page, who also plays a prominent role in the activities of the Toronto Traffic Safety Council as one of its Directors, gave the following rules for safer driving:

—Pay strict attention to all road signs;
—Make a habit of using hand signals always;
—Adjust speed to weather, road and traffic conditions;
—For every 10 MPH allow one car length of distance behind the vehicle in front;
—Keep your eyes on the road at all times, and both hands on the wheel;
—Keep cars and trucks in 100% operating efficiency.

"A good, safe standard to follow," he said, "is to practice the 'Golden Rule' of driving,—Care—Courtesy—Common Sense."

As the Commission and its contractor operate some 1,500 vehicles, which have already travelled close to 20,000,000 miles of an estimated 100,000,000 in connection with Hydro's frequency standardization program, the lecture had special significance for their drivers.



Chatham's New Home



CLIMAXING a 38-year record of progress, and service to the community, Chatham P.U.C. formally opened a large addition to its headquarters building on May 14.

A reception and banquet, attended by provincial and civic officials, as well as representatives of the Ontario Hydro and municipal Hydro commissions, preceded the official inauguration ceremony.

Guest speaker, Hydro Chairman Robert H. Saunders, congratulated members of the Chatham Commission, and Manager-Secretary R. S. Reynolds, for a "wonderful job well done."

"We are very proud of our municipal commissions throughout this province," Mr. Saunders said, "and the fact that they have built up assets for their people totalling some $350,000,000 in the past 41 years."

Public Service

Paying tribute to three former Chatham commissioners, Fred Biette, Charles

(Continued on page 12)

UPPER PHOTO—Resembling modern department store is this view of the remodelled headquarters of Chatham P.U.C. CENTRE: Climax of the opening ceremonies was the cutting of traditional ribbon by Hydro Chairman Robert H. Saunders shown in the group with Rev. A. L. Foster, Chatham; Manager R. S. Reynolds; Chatham Chairman S. G. Thomson; Mayor W. A. Donovan and Warden Guyitt, Kent County. LOWER PHOTO — Section of audience during ceremony.







UPPER LEFT—Inspection of new addition followed official opening with the lady guests taking a special interest in the model kitchen which is located on the main floor.

UPPER RIGHT—Electrical appliances are demonstrated in operation. Here Miss Emily Bullough, Secretary, Dresden Hydro, with fellow Dresdenites, Miss Gladys Christner and Mr. and Mrs. Bert Hancock inspect washer.

LOWER RIGHT—In token of his 25 years' efficient service, Manager R. S. Reynolds with Andrew Ward, M.P.P. East Kent; Harry Wilson, Windsor, and R. M. Laurie, Mgr. Western Region, Ont. Hydro, admires watch presented to him by S. G. Thomson on behalf of comm.

LOWER PHOTO—Chatham Hydro, with a staff of 56, seldom loses an employee except through death or retirement. Oldest employee is Bert Tugwell, at extreme right, first row.







REFRESHMENTS were served by ladies of the Heather Club. Here Mrs. R. S. Reynolds, Mrs. S. G. Thomson and Mrs. W. B. Golby enjoy a cup of coffee after inspecting facilities of the new building.

★

CHATHAM ARCHITECT, John Moore, receives congratulations on new building from Warden Guyitt and Andrew Ward, left.



Austin, and Jack Beardall, the speaker said they typified unselfish, public service. Ontario's present era of prosperity is due, in a large measure, to the impetus of low-cost Hydro power supplied by the Ontario and municipal commissions to the farms, homes, commercial firms and industries across the province, he added.

During a brief address, Mr. Reynolds said the Chatham Commission believed that courteous treatment of customers, dependable personnel, and reliable equipment were three prerequisites of successful system operation.

"Many years ago, we realized that electric power in this city was continuous, 24-hour service, not merely a matter of selling kilowatthours," he said.

Mr. Reynolds emphasized, that in rendering this service, the Chatham Commission had been "blessed" with employees who could be depended upon to take their job seriously, and who worked and studied to learn more about their jobs in order to give better service.

"I believe that the customers have benefitted by this devotion," he said.

During the past few years, the need for increased office space became very apparent, the speaker explained, but, in putting first things first, an addition to the commission's building was set aside until the substations and lines were completed to serve the expanding industrial life of Chatham.

Manager Honored

Concluding his remarks, the genial manager was the recipient of a surprise presentation marking his 25 years' service. On behalf of employees of the commission, Roger Ripley and Wilfred Cartier presented him with a handsome gladstone bag. Chairman Stanley G. Thomson, on behalf of the commissioners, presented Mr. Reynolds with a wrist watch, at the same time eulogizing his outstanding service, not only in his official capacity, but also as a citizen.

The new office building was officially opened when Chairman Saunders cut the symbolic ribbon in front of the speaker's stand. A prayer of dedication was offered by Rev. A. L. Foster, President of Chatham's Ministerial Association.

Short addresses were given by H. D. Rothwell, Administrative Assistant-Regions, Ontario Hydro; George Parry, MLA, West Kent; Andrew Ward, MLA, East Kent; Warden Guyitt of Kent County, and Mr. Thomson.

Following the formal ceremony, guests made an inspection of the $182,000 addition.

Double Frontage

Designed by Jack Moore, Chatham architect, the modern structure conforms with the architecture of the older section, doubling the frontage of the commission's headquarters on King Street, one of Chatham's main thoroughfares.

Large show windows across the front of the building provide ample space for the display of electrical equipment and appliances, as well as natural light for the enlarged and tastefully-decorated showroom on the main floor.

A feature of the display area, to the rear of the showroom, is a model kitchen

STOUFFVILLE FAVORS P.U.C.

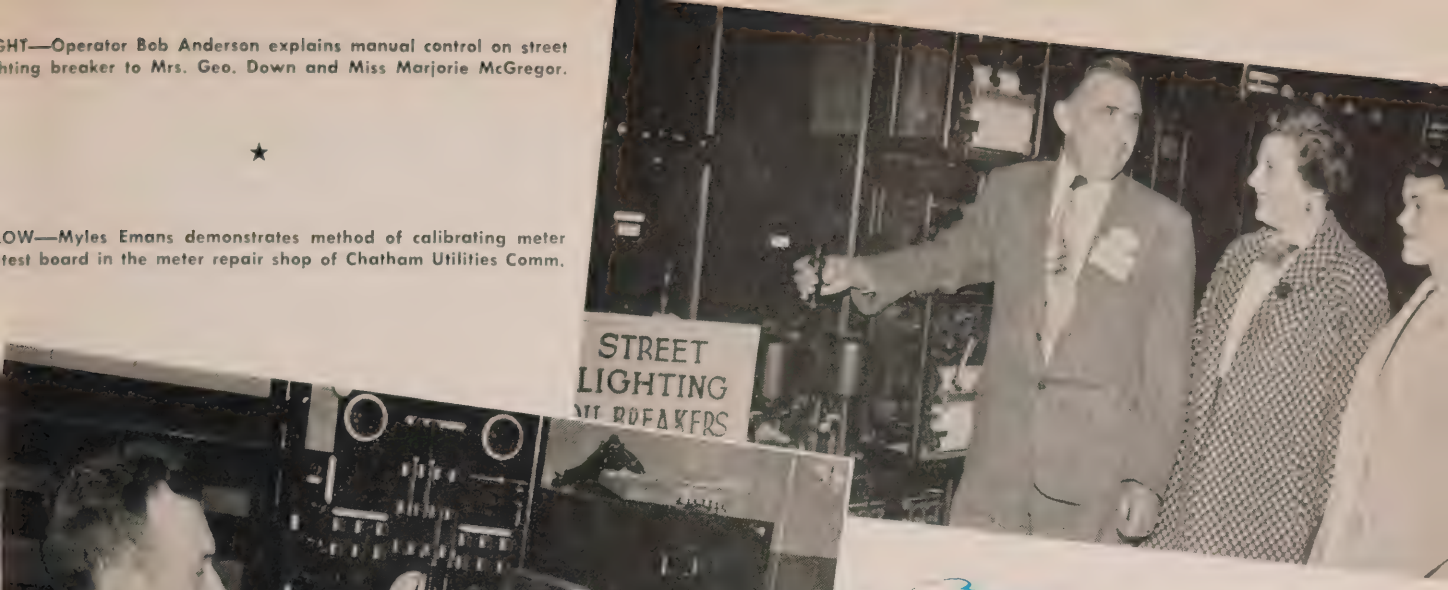
ON July 7 Stouffville ratepayers voted 3-1 in favor of establishing a public utilities commission to administer hydro and water services in that village. Vacations and hot weather caused a light vote with only 12 percent of the 1,074 eligible voters exercising their franchise. The result was: Yes, 84; No, 30.

At the municipal elections next December, voters will select the members of the new, three-man commission.

GHT—Operator Bob Anderson explains manual control on street hting breaker to Mrs. Geo. Down and Miss Marjorie McGregor.

★

LOW—Myles Emans demonstrates method of calibrating meter test board in the meter repair shop of Chatham Utilities Comm.





for demonstration and cooking school purposes, with a laundry room along the rear wall where stoves, washing machines, and refrigerators can be shown in operation. This section also offers seating accommodation for approximately 50 people.

Adjoining the display area are the executive offices, including a combined board room and office for the manager-secretary. These offices are finished in birch plywood in light tones. Offices of the sales manager and the cashier are situated at the opposite end of the main floor. Substation equipment is located at the rear of the building.

On the second floor, the general office has been enlarged to provide accommodation for the accounting department, as well as a soundproof billing room. A lounge for female employees, in addition to washroom facilities, is also situated on the second floor.

Steady Growth

The new building reflects the steady growth of the Chatham system since it was founded in 1914. At that time a contract was signed with Ontario Hydro and the local commission took over the supply of power to the original 1,136 customers.

After operating at two sites, the commission moved to its present location in 1915, erecting a large addition for storage and a substation in 1920, when it purchased the electrical distribution system of the Chatham Gas Company. This company generated electricity by means of gas-fired steam turbines.

By 1920, assets of the Chatham system were valued at $90,000. Since World War II, the commission has experienced phenomenal expansion with assets totalling more than $1,500,000 today. These assets include four substations with a capacity of some 17,000 kilowatts; nine trucks and a two-way radio system, and its present modern quarters.

Serving 6,854 customers of all classes with a staff of 56 employees, Chatham P.U.C. last year recorded a new high when its total revenue reached a total of some $900,000.—*By H. B. Wood.*



HUGH CRAIG and James Neal admire new office of Sales Mgr. Gordon Sharpe. Cashier Bill Coltart and Mrs. Sharpe are shown on left.

Simcoe Submarine

THAT old superstition about Friday the 13th is now just a myth to residents of Thorah Island in Lake Simcoe.

For it was Friday, June 13, this year that an Ontario Hydro line construction crew completed a unique, six-hour operation which brought applicants for rural Hydro service on that island a step closer to their five-year old dream.

Thorah Island—three miles long and 1½ miles wide—is situated some two miles off the mainland near the picturesque Village of Beaverton. Those two miles of open water presented some special problems for Hydro's Electrical Engineering Department and the line construction crew from the Commission's Cannington Rural Operating Area who were responsible for construction of the new distribution line.



Longest Stretch

The major undertaking was the laying of two miles of submarine cable—believed to be the longest stretch of rural underwater distribution line ever laid by the Commission.

An important factor in this comparatively "ticklish job" was the weather itself. Scheduled for June 11, the project was delayed two days by brisk winds which whipped across the choppy surface of the lake.

Then Friday, June 13, dawned—clear, and almost unbelievably calm!

The Hydro crew went into action. A 25-ton barge, with two reels, carrying one mile of armored cable apiece, mounted in tandem on it, was towed from Beaverton to Point Mara—about four miles north—which was the point of "take-off" for the island. A large, white marker had been erected on the island, and a rowboat was anchored at a point midway between it and the shore as a guide for the cable-laying operation.

Cables Spliced

The first mile of cable was laid without the slightest mishap within 45 minutes. Then the barge was anchored securely in 25 feet of water while the two six-ton reels of cable were spliced. Splicing of the rural

(Continued on page 23)



THREE MEMBERS of the Cannington R.O.A. line c stand ready to brake the first reel to preven from spinning too rapidly. Empty guide reel in f ground helped ease cable off barge into the l

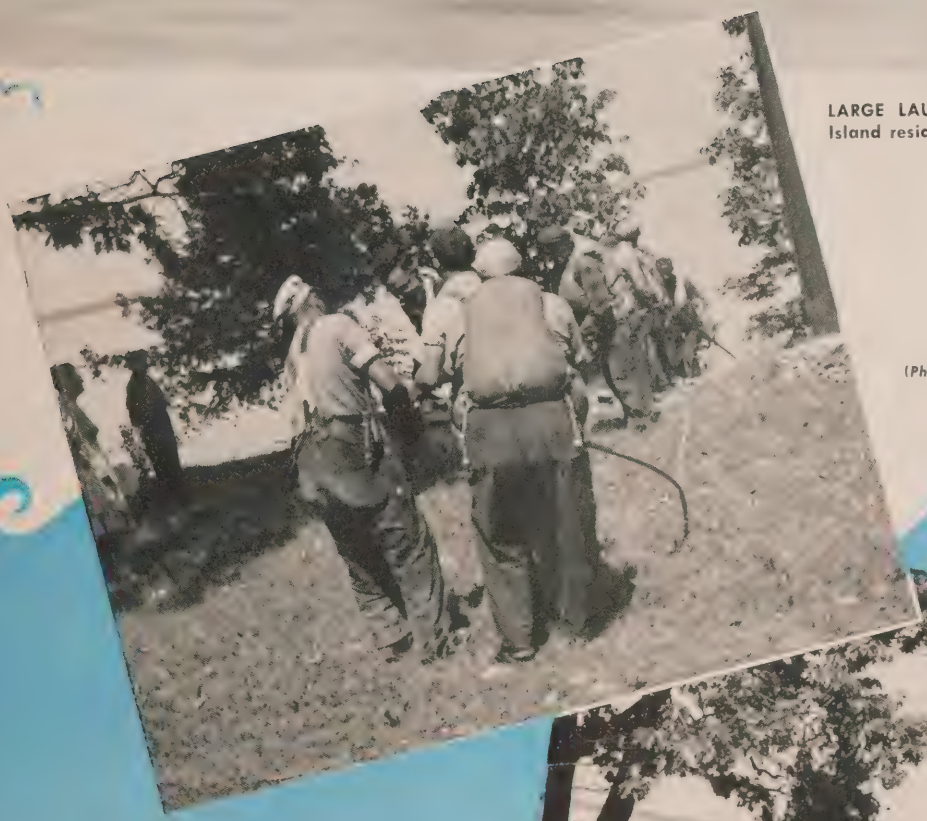


RESEMBLING a military landing operation is this view of the unique cable-laying ject showing the cable entering Lake Simcoe off the end of the 25-ton barge.



LARGE LAUNCH which serves as a ferry for Thorah Island residents was used to tow barge across the lake.

(Photos by L. T. Wainright)

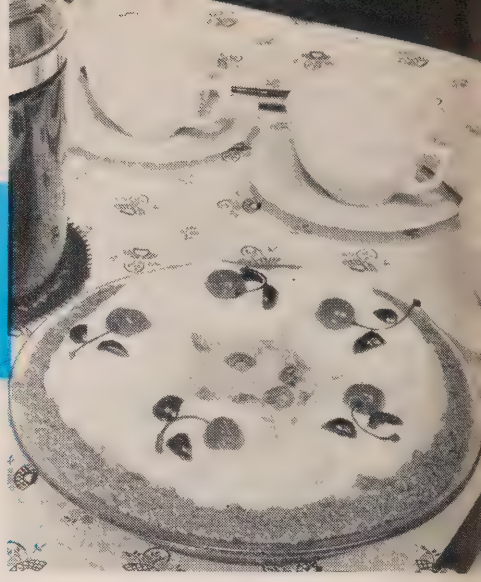


REACHING THORAH ISLAND the line crew carry the distribution line up the bank for connection to the previously-erected terminal pole. Pearce Flowers, Georgian Bay Region, who handled splicing of the two sections of heavy cable is in the foreground facing camera.



WITH the cable-laying operation an accomplished fact, the happy islanders joined forces with the Hydro crew which was in charge of the project to pose for photo.

HYDRO *Home Forum*



by Edithemma Dighton
Hydro Home Economist

Food plays an important role at any picnic! Bread and butter sandwiches, cold roast meat or fried chicken, little tomatoes, crisp celery, cucumber wedges, cakes, ice-cream cones or fresh fruit, and a thermos of cold milk are popular with most picknickers.

* * *

To keep sandwiches fresh for a picnic trip, freeze each kind in a parchment bag, placing in a ventilated tin for the trip. This will keep them from getting soggy, yet, they will have thawed out in an hour. Use any filling for frozen sandwiches except jam or jelly.

* * *

When you plan a long holiday (3 to 6 weeks) disconnect the refrigerator, remove all the food and allow electric refrigerator to defrost. Wash the interior with warm soapy water, rinse and wipe dry. Leave the door slightly ajar.

* * *

If you have an automatic defrosting refrigerator and it has been disconnected, be sure to reset the automatic defrosting control to the correct time of day after the refrigerator is operating again. Also reset the temperature control to the operating position.

* * *

If a power failure occurs, turn the motor-driven appliances off. When the power comes on don't forget to turn them on again, of course! Packages of frozen food should be wrapped in heavy paper if there should be a long interruption of more than five hours. When raw foods thaw out, they must be cooked. Chill and package again before refreezing.

* * *

A brand new refrigerator should be allowed to operate with control set at "Normal" for 2 or 3 hours before food is placed in it, or water is poured into the ice cube trays.

Large roasts of meat can be kept as fresh meat for 6 or 7 days in the electric refrigerator whereas ground, fresh (not cured) meat should be used in 2 or 3 days. Meantime, store **unwrapped** in the meat-pan of the refrigerator.

* * *

Instructions for freezing vegetables: Blanch small amounts of prepared vegetables 1 minute; then chill in running cold water 2 minutes before packaging the drained food for freezing. This sets the color and scalds the food for cleanliness.

* * *

Canned sea food is now available in great variety. Keep several cans of fish on hand: Fish flakes, salmon, tuna, sardines, shrimp, herring, finnan haddie, codfish, lobster and roe. Chilled canned fish goes well with summer salads. Serve boiled dressing since fish contains natural oil.

* * *

Garnish your desserts attractively but use garnishes that are edible. Sometimes you can use one of the ingredients of the dessert as a garnish and, or course, whipped cream, marshmallows and fruits canned or fresh, as well as nuts, make these dishes attractive.

* * *

Cottage cheese can add a subtle flavor to mixed dishes. However, if you add cottage cheese to a hot mixture, use low heat. Too much heat will toughen the cheese protein and make it "weep".

* * *

You can make homemade ice cream and delicious sherbets quickly in your home freezer. Remember to remove the trays or bowl in about 20 minutes to beat once before freezing firm in a covered dish or loaf pan. Line with wax paper or foil, and tie foil over top.

* * *

Corn silk may be more thoroughly removed by using a small stiff brush.

* * *

Cream! You can coax more cream out of milk by heating whole milk until lukewarm; then chill it suddenly.

* * *

Canned meats will keep but extreme temperatures change color and flavor of the contents.

* * *

The success of bright coloured jam or jelly is attained when fruit and juice are cooked quickly.

* * *

Ripe olives: The remainder of a jar of ripe olives should be used within a week if you want their flavor. You can add them to a pot roast or sliver pieces into an omelet mixture or mash for a sandwich filling.

Cherry Cream Pie

1 tbsp. gelatine
¼ cup cold water
2 cups drained cooked cherries
½ cup sugar
¾ cup cherry juice
⅛ tsp. salt
1 tbsp. lemon juice
½ cup thick cream, whipped
1 Graham cracker pie shell

Soften gelatine in cold water for 5 minutes. Heat cherries with sugar and juice. Add salt and gelatine. Mix well to dissolve gelatine. Add lemon juice and chill. When mixture begins to thicken fold in whipped cream. Pour into pie-shell. Chill in electric refrigerator until filling is firm. Whip another ½ cup cream, sweeten and garnish pie adding a few fresh cherries.



Chalmers Greenwood, shown at the wheel, bought this 1912 model shortly after Stratford became associated with Hydro.



ONE of Sir Adam Beck's staunch supporters, Mr. Greenwood was a leader in the campaign to have Stratford purchase power from Hydro.

Hydro Pioneer

WAY back in the 1880's, a Blenheim district farmer paid a visit to Niagara Falls. On his return, in the hearing of his young son, he told a friend:

"They are talking of harnessing the falls to make electricity. Isn't it silly of them to think they'll ever be able to do anything like that!"

The son, Chalmers Napier Greenwood, Stratford's grand old man of Hydro, now in his 79th year, recalled these words of his father's at a recent luncheon meeting which marked the delivery of the first 60-cycle power to customers in that city.

Mr. Greenwood has good cause to know how right were the Niagara pioneers, as he was a member for 22 years of the Stratford Public Utilities Commission, which, for many years, has been supplied with the bulk of its power from Niagara.

Mr. Greenwood arrived in Stratford in 1903, and when Sir Adam Beck, then the Hon. Adam Beck, visited the city in the early years of the present century, Mr. Greenwood met this keen exponent of public ownership of hydro-electric resources in Ontario. Sir Adam's message impressed both Mr. Greenwood and W. D. Dingman, Editor of the Stratford Herald, who became, in consequence, staunch supporters of the "Father of Hydro."

Faith in Sir Adam

"We had a great deal of faith in Sir Adam Beck," said Mr. Greenwood, "and we were in favor of our municipality joining Ontario Hydro after Sir Adam's speech. Some prominent men in the town were dead against the idea, but, Mr. Dingman was elected Mayor and I headed the aldermanic poll with the largest vote ever recorded in Stratford up to that time — 999, on the Hydro issue."

Thus, Stratford became one of the original 13 municipalities to join the Hydro family. The first meeting of these municipalities was held in Toronto and the late Thomas L. Church was elected chairman.

(Continued on page 18)

(Continued from page 17)

Stratford, at that time, was being supplied with power by the Stratford Gas Company which operated a steam plant. The output of this plant was supplemented by a small hydro-electric station on the Avon River which produced power when the level of the river was high enough to give the plant the necessary head.

On April 14, 1910, a large majority of the ratepayers authorized an $85,000 debenture issue to provide the required money to purchase the electrical distribution system.

"Some of our citizens thought it was dangerous to go into such a proposition where so much money was at stake," Mr. Greenwood recalls.

Transmission Problem

Furthermore, many were doubtful that Hydro could generate power at Niagara and transmit it as far as Stratford without a serious drop in voltage. However, around that time, F. A. Gaby (later Dr. F. A. Gaby, Chairman of Ontario Hydro) went to Europe to study transmission and distribution problems and came back with several satisfactory solutions.

Stratford celebrated Christmas Day, 1910, in a unique way by turning on hydro-electric power supplied by Ontario Hydro for the first time. The first members of the Stratford Light and Heat Commission (it became a public utilities commission in 1915) were Angus McDonald, James J. Mason and Mayor W. S Dingman. The maximum load, during the first month, was 54 horsepower. Until that time, most of the factories had operated on steam power and they had to be convinced that it would be more advantageous for them to change to Hydro.

"When it was discovered that hydro-electric power could be transmitted and supplied more cheaply than it could be generated locally, the opposition to our affiliation with Ontario Hydro just melted away," Mr. Greenwood states.

Factories began using small motors, gradually installing larger ones. Today, Stratford, with a peak load of some 13,500 horsepower has 5,301 domestic, 700 commercial, and 147 industrial customers, a total of 6,148.

Active Municipal Record

Actively identified with this growth, Mr. Greenwood can boast a record of municipal service which includes 15 years as an alderman; one year as mayor, as well as his 22 years' association with the city's public utilities commission, five of which were spent as chairman. He also served for 16 years on the Suburban Roads Commission.

In addition to his championship of the ideal of Hydro as a public utility, Mr. Greenwood promoted the building of a half-million gallon steel water storage tower in 1917. Alex. B. Manson, General Manager of Stratford P.U.C., states this tower, which is still in use, has saved the city thousands of dollars. The tank permits all Hydro power to be cut off at the waterworks pumping plant during electrical peak hours, thus reducing the city's peak demand, with a resultant saving of approximately $9,800 per year. During the peak hours, water is supplied from the high steel storage tank which maintains normal pressure.

First Car

Mr. Greenwood's memories of Stratford's participation in the movement to make Hydro a publicly-owned utility, are associated also with the purchase of his first car in 1912 — a model T Ford which cost $1,250. This was one of the first cars in Stratford. At the time there were no more than six in the city, and Mr. Greenwood can still name their owners.

Henry Ford himself came to Stratford to induce citizens to invest in his company, and Mr. Greenwood was "all set" to buy $500 worth of shares, but was discouraged by a friend (?) who said the Ford organization would only last for about two years.

"If I'd carried out my intention those shares would have been worth thousands of dollars now," Mr. Greenwood states ruefully.

But, he laughingly recalls the time (40 years ago) when he was caught on the St. Mary's Road, "hurtling" along at 28 miles an hour — eight miles above the legal limit. He was fined $10 and $2 costs by his friend, Magistrate J. A. Makins. He still drives, but his car is vastly different from that 1912 model.

Although Mr. Greenwood retired from the local commission in 1949, he still takes a keen interest in its activities. He was an honored guest at the luncheon held recently to celebrate Stratford's initial changeover to 60-cycle power and his reminiscences concerning the history of Hydro in Stratford were of particular interest to the large audience which included both Ontario Hydro and civic representatives.—*By Frank Wood.*



TOURING this continent to study power tunnel driving methods, four engineers of the Snowy Mountains Hydro-Electric Authority of Australia visited Hydro's Sir Adam Beck No. 2 development recently. Shown with Don Rankin (white jacket) Hydro engineer, and William Hogg, Assistant Field Project Engineer, extreme right, the Australian engineers, J. D. Williamson, I. L. Pinkerton, A. D. McConnell and J. R. Hunter, discuss engineering features of the big development in the tunnel cross-section at Shaft. No. 4.



SEVEN PROMINENT CANADIANS received honorary degrees at the University of Toronto's final convocation. Left to right—Rev. Georges-Henri Levesque, Ontario Prime Minister Leslie M. Frost, Canada's Governor-General Vincent Massey who conferred the degrees; Dr. Donalda Dickie, Dr. E. W. Bradwin, James T. Jenkins, Dr. Richard L. Hearn and Rt. Hon. C. D. Howe. Inset—Dr. Hearn with Dr. Jenkins in procession which preceded convocation. Captain Nicholas Eden, Governor-General's Aide-de-camp and son of British Foreign Secy. Anthony Eden, behind.

Honoris Causa

University of Toronto Confers Degree on Hydro's Chief Engineer and General Manager

CITED as "a man who has conspicuously demonstrated that engineers may be counted among the builders of nations," Richard L. Hearn, Ontario Hydro's General Manager and Chief Engineer, received the honorary degree of Doctor of Engineering from the University of Toronto last month.

Mr. Hearn was one of seven prominent Canadians so honored by the University at its final convocation. Described as "a distinguished, devoted, and dedicated public servant who combines a deep knowledge of his province with a broad vision of its place in the Dominion," Ontario Premier Leslie M. Frost was honored with the degree of Doctor of Laws.

Canada's Governor-General, the Rt. Hon. Vincent Massey, as Chancellor of the University of Toronto, also conferred honorary degrees on Rt. Hon. C. D. Howe, Minister of Trade and Commerce; Dr. E. W. Bradwin, veteran Principal of the far-flung Frontier College; J. T. Jenkins, Principal of Jarvis Collegiate Institute, Toronto; Miss Donalda Dickie, authoress, 1951 winner of the Governor-General's award for the best Canadian children's book, and Rev. Georges-Henri Levesque, Dean of the Faculty of Social Science, Laval University, Quebec City.

Grateful to Engineers

In presenting Mr. Hearn to the Chancellor for conferring of the degree, President Sidney Smith said Canada, more perhaps than any country in the world, has reason to be grateful to the members of the engineering profession.

For the development and unification of Canada, boldness and ingenuity were needed, Dr. Smith pointed out. These personal qualities have been, and still are, the hallmarks of the engineer, he continued. Moreover, there had been, in the last half-century, an extension and a refinement of his role, as he invaded scientific laboratories and executive offices.

"Full partners in our national efforts for human betterment, leading engineers of today are truly public servants, believing and demonstrating that machines are made for men, not men for machines."

Describing Mr. Hearn as an outstanding member of that select fraternity, the speaker said he had brought to private and public undertakings the skills of his profession; he had engaged in, and applied the results of basic research; in his managerial capacity, he had worked with men, and through his attributes of leadership he had inspired men to work with him in the achievement of national goals.

"A graduate in whom we take great pride, he embodies one of the numerous links between The Hydro-Electric Power Commission of Ontario and his Alma Mater," Dr. Smith stated in conclusion.

District 5 O.M.E.A. Meeting

Municipal utility taxation and frequency standardization head list of topics discussed at Dunnville meeting



ABOVE—W. Ross Strike, Hydro's Second Vice-Chairman, registers with K. R. Baird, Caledonia while H. D. Rothwell, Administrative Assistant-Regions, chats with District 5 Chairman Dr. Fred Barron, Paris. Denton Taylor, West Central Region, and Bill Secord, Brantford, are on the left.



SAM MURCHIE, Brantford Twp. evidently had an interesting topic judging by the expressions of Allan Howard, Thorold; Robert Densmore, Kenneth Bickle, Toronto, and L. E. Richardson, Merritton.



ADJOURNMENT found Port Dover Commissioners J. V. Bayes and Gordon Rae, and K. R. Baird, Caledonia, in a spirited discussion.



THIS SMILING QUARTET which includes John Read, James Smeaton, Sam Murchie and Duncan McArthur enjoyed trip on the Grand River.



GUY PARKER, left, and Denton Taylor, right, West Central Region, were found deep in conversation with W. D. Stalker, Simcoe P.U.C.



"WELCOME TO DUNNVILLE" P.U.C. Chairman Thomas Giggs tells Chairman Dr. Fred Barron, Paris, as Chester Thoms, Mayor Garfield Disher and Mgr. John Dawson smilingly agree.



RAY PFAFF, St. Catharines, left, describes progress made in establishing standard substation design to T. W. Houtby, Welland.

PUBLIC utility taxation and frequency standardization were the chief topics of discussion at the spring meeting of District 5 O.M.E.A. held at Dunnville June 4.

With Chairman Dr. F. A. Barron, Paris, presiding, delegates heard brief but informative addresses on these subjects by W. Ross Strike, Hydro's Second Vice-Chairman, and H. D. Rothwell, Administrative Assistant-Regions.

Dealing with the question of utility taxation, Mr. Strike said that by amendments to the Assessment Act at the recent session of the Legislature, the clauses referring to the assessment and taxation of land only, owned by and vested in the local municipality, but, used for the purposes of the local utility, were repealed and new sections enacted. The new sections in general provided that the local utility pay annually to the general fund of the municipal corporation an amount equal to the amount that would be paid by the local utility for taxes, including business tax, if its lands and buildings were assessed by the municipal assessor and taxes levied thereon in the usual way.

Subject to Appeal

In effect, this meant that the local assessor made an assessment of the lands and buildings used by the local utility in the usual way and this assessment was subject to appeal in exactly the same way as the assessment of any ratepayer, and the business assessment would also be arrived at in the same way as any other business of the same nature as provided in the Act. The full mill rate was then applied to such assessment to arrive at the amount to be paid.

It should be noted, however, Mr. Strike pointed out, that the distribution facilities, including all machinery, equipment and works were exempt from such assessment. Also, the new amendment provided that all existing agreements between the local utility and the municipality for payments in lieu of taxes, as provided in former legislation, were now void.

Mr. Rothwell, who reported on the progress of Hydro's Frequency Standardization program, assured the delegates from municipalities in the 25-cycle area that Ontario Hydro would gladly facilitate delivery of 60-cycle power to a new or existing industry in advance of frequency standardization operations in any municipality.

On Schedule

The speaker stated that standardization was on schedule, and in some areas, due to advance 60-cycle changeover, it was ahead of the local time-table. Continuing, Mr. Rothwell, predicted abundant supplies of 25-cycle equipment would prevent prices from mounting during the final days of the changeover period.

"Thousands of dollars have been saved under the advance frequency standardization program begun only a year ago last January," said Mr. Rothwell. "To date, 26,155 horsepower has been changed over and 44 industries and three steel furnaces completed."

25-Cycle Load Checked

Referring to the regular program of frequency standardization, he said growth of the 25-cycle load has been checked. Present peak consumption is lower than for the corresponding period last year, the speaker explained.

Station Design

Ray Pfaff, St. Catharines, speaking as a member of one of the A.M.E.U. subcommittees on standardization of station design reported satisfactory progress in reaching a universal design. At the present time, the committee was awaiting word from the municipalities before proceeding further.

Guest speaker was Major W. D. Jones, who recalled his experiences and impressions while living with a partisan group in Yugoslavia during the last year. Dinner was served in the Legion Hall by members of the Canadian Legion Ladies' Auxiliary.



Operation "Trout"

THAT wonderful community spirit, so familiar at old-time "barn raisin's and corn shucking bees," recently had a modern application at Owen Sound.

A few weeks' ago, the Inglis Falls bridge across the Sydenham River, on the outskirts of that city, was condemned and closed to traffic. The bridge was vital to the Owen Sound Public Utilities Commission since it provided access to its property and three houses owned by the Commission. Robert Butter, General Manager and Secretary contacted Ontario Hydro's General Manager and Chief Engineer, Dr. Richard L. Hearn.

Within five minutes, Dr. Hearn had supplied prices and permission to the Owen Sound P.U.C. to purchase the nine tons of Bailey Bridge material.

Another telephone call was sent by PUC Chairman, Lt.-Col. A. A. Kennedy, D.S.O., E.D., Commanding Officer of the local 45th Anti-Tank Regiment, to his friend Major Hickson, Commanding Officer of the Kitchener Reserve Unit.

The second call brought 35 men from a Kitchener reserve unit of the Royal Canadian Engineers plus 13 men from associated units to install the bridge over the Sydenham River as a weekend exercise.

The weekend exercise, dubbed "Operation Trout" got underway early in the afternoon. Some four hours later, the first truck, "a 12-tonner," rumbled slowly across the 30-ton capacity bridge.

"Operation Trout" had a second phase when appreciative townsfolk pointed out the best trout holes for the visiting engineers.

FORMER COMMISSIONER PASSES

T. E. Foster, a prominent Smiths Falls citizen and a former member of the town's hydro-electric Commission died at his home recently.

Industrial Deduction

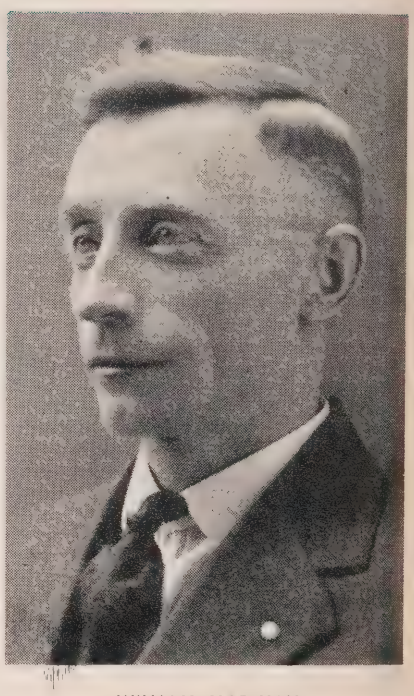
HYDRO has been advised that Power customers of the Commission whose plants are undergoing changeover from 25 to 60 cycles, may now claim their cost of standardization as an expense when computing Dominion Income Taxes.

If the customer computes profits on an accrual basis, the expense will be allowed in the year incurred, that is, in the year standardization is made. Those customers who report income on a cash basis will be allowed the expense in the year payment is made.

After changeover the Commission bills each power customer separately (to whom the tariff applies) for its share of the cost of changing its equipment. The cost of betterments and improvements is not deductible. The customer's contribution to standardization costs, however, should be generally treated as an expense and are, therefore, considered deductible for income tax purposes.

There will be some cases that do not fall into the general pattern of these arrangements. In such cases inquiries should be directed to the Canadian Manufacturers Association, or to the Deputy Minister of National Revenue, Ottawa.

Mourn Veteran Superintendent



WILLIAM MARSHALL

SUPERINTENDENT of Orangeville Hydro-Electric Commission for over 33 years, William M. Marshall died at his home on June 29 in his 70th year after a short illness.

Born in Fergus, Mr. Marshall played a significant role in the growth of the Orangeville system. In addition, he served as town engineer for over three decades, supervising installation of Orangeville's sewage and waterworks system.

J. M. Murray, formerly associated with Ontario Hydro, has been named to succeed Mr. Marshall. A veteran of World War II, Mr. Murray won the Military Medal while serving with the R.C.C.S.

Toronto Surplus

NET income of the Toronto Hydro-Electric System for the year 1951 totalled $3,938,598, according to the commission's annual report issued recently.

The operating account showed a net surplus of $1,667,678.47 after deductions for interest, depreciation, taxes and debenture retirements. Of this amount, $1,650,000 was set aside for frequency standardization costs, to provide for writing off that portion of the charges which cannot be charged to the capital account.

A table presented with the report graphically indicated the physical growth of the Toronto System between 1912 and 1951. In the first year of operation, the Queen City's annual peak load was 12,830 kilowatts (17,198 horsepower) as compared with 421,584 kw. (565,126 hp.) last year.

Electrical energy purchased from Ontario Hydro cost $12,490,682.36 or 57.4 percent of the gross income in 1951. Net cost was $31.60 per kilowatt.

During the past year, cost of installing underground distribution lines totalled approximately $1,400,000. While the Commissioners fully appreciated the desirability of proceeding with this program "the importance of this work must be weighed in relation to other tasks with which the system is faced," the report pointed out.

COBOURG PROFIT

A surplus of $19,721.81 on 1951 operations is reported by the electrical department of Cobourg Public Utilities Commission.

Receipts in the electrical department were up in 1951. Total income for 1951 was $206,447 as compared with $174,336 in 1950, an increase of $32,110. Receipts from domestic consumers were $91,100 last year, an increase of $13,683; commercial, $102,187 for an increase of $16,919.52; municipal $9,787, an increase of $857. Miscellaneous receipts amounted to $3,472, an increase of $649.94.

LOUIS C. GIRARD DIES

Louis C. Girard, 60, Hydro Commission Chairman, St. Clair Beach, died recently. He is survived by his widow, two sons and five daughters.

PRESTON P.U.C. EXPANDS

PRESTON Public Utilities Commission plans to undertake a $100,000 rehabilitation and extension program, Chairman O. J. Little has announced.

Ontario Hydro has approved payment of a portion of the expenditure from available funds and, in addition, has authorized the Corporation of the Town of Preston to issue debentures to the amount of $75,000 to assist in financing the program.

Included in the new project is the purchase and rehabilitation of a section of the Kitchener Rural Operating Area distribution system which was taken over by the Preston Commission on Jan. 1, 1952 from Ontario Hydro when the town extended its boundaries.

Improvements, Mr. Little stated, include the construction of a new substation, installation of equipment, as well as purchase of 60-cycle equipment for advanced frequency standardization purposes.

SIMCOE SUBMARINE

(Continued from page 14)

submarine cable a mile off shore was another unique feature of this job. Incidentally, the wire-armored cable, designed for 4,800-volt operation, consisted of No. 4 solid copper conductor, with paper insulation and lead sheathing.

With the important splicing portion of the project completed in four hours, the second mile was laid in less than an hour. As the 15-man line crew with General Foreman Lloyd Pethick, of Cannington, which handled the carefully-planned job under the supervision of Distribution Plant Engineer J. P. Morgan and Assistant Plant Engineer J. F. Winchester, Electrical Engineering Department, carried the heavy cable up on shore for connection to the previously-erected terminal pole, they were accorded an enthusiastic ovation by the waiting islanders.

And so, today power is being distributed over that submarine cable to more than 30 farm and summer residents who have joined Hydro's fast-growing family of rural customers.

Long Service Records

CHATHAM Utilities Commission rarely loses an employee except through death or retirement.

Bert Tugwell, oldest employee, is the last member of the original staff of the Chatham Commission, which was organized in 1914, still on the active list.

Employees of the Chatham Gas Company when its distribution system was taken over by Chatham Hydro in 1920; John Caldwell, line foreman; George Cook, a meter reader on partial time, and Frank McKishnie, an operator, also exemplify that continuity of service of which the local commission is justifiably proud. Four others have 25 or more years' service and seven more will join the select circle within three years. They include Fred Clark, station superintendent, who joined the staff in 1919; W. E. Killby, billing department; Royal Wood, Accountant and Office Manager, both of whom date their service from 1920, and Senior Linesman Bill Moore who joined the staff in 1922.

CLASSIFIED ADS

FOR SALE

Fifty Cast Iron Lighting Standards, each with Rombo Glassware and 110-volt socket. Suitable for parks, lawns, or driveways.

Weston Public Utilities,
131 Main St. N.
Weston, Ontario.
Phone: Cherry 1-5249.

Burroughs, six-total billing machine, suitable for small utility office in good working order. A. D. Thomson, Secretary-Treasurer, Port Credit Public Utilities Commission.





OFFICERS of the Grand Valley Metermen's Association pose at the conclusion of the spring meeting. They are left to right front: W. J. Bishop, Manager, Guelph Board of Light & Heat Commissioners; President Otto Reiber, Waterloo PUC; G. W. White, Simcoe PUC; J. G. Steiss, Kitchener PUC; Back Row: W. D. Stalker, Manager, Simcoe PUC; H. W. Cook; Past President Sam Murchie, both of Brantford Township; F. W. Vogt, Hamilton Hydro. Not shown are Vice-Pres. Gordon Stacey, Guelph Board of Light & Heat Comm. and "Bud" MacLachlan, Waterloo.

Metermen Name Officers

OTTO REIBER, Waterloo P.U.C., was elected President of the Grand Valley Metermen's Association during the spring meeting held recently at Hamilton.

Other elected members of the executive were: Vice-President, Gordon Stacey, Guelph; Secretary, "Bud" MacLachlan, Waterloo; W. D. Stalker, Simcoe; W. J. Bishop, Guelph; Sam Murchie, Brantford Township; G. W. White, Simcoe; F. W. Vogt, Hamilton; J. G. Steiss, Kitchener.

Delegates unanimously endorsed a motion to make the Association a participating member of the proposed Council of Ontario Metermen's Associations.

Gordon Stacey, Guelph, Board of Light and Heat Commissioners, presented a paper on "Consumer Service Problems" dealing with various troubles met by public utility employees in correcting customers' troubles. Another paper, "Potpourri" given by Douglas Bruce, Sangamo Co. Ltd., dealt with a number of metering problems, particularly those pertaining to the calculation of multipliers. The program also included two films on Public Relations by the Bell Telephone Company.

Wins Scholarship

BARRY C. MILLER of Toronto has been declared this year's winner of the scholarship sponsored by the Ontario Hydro at the Ryerson Institute of Technology, Toronto, the Institute announced recently.

Objective of the scholarship is to give further encouragement and assistance to technical trainees in the province. The award is made to an undergraduate in the second year of a three-year course in the Institute's School of Mechanical and Industrial Technology. It follows the recent decision of the Commission to sponsor scholarships at Ontario universities.

These awards will be maintained during the years 1953 to 1956 inclusive.

ANOTHER LINK

(Continued from page 9)

Des Joachims and Otto Holden projects, who was accorded the honor of pressing the button which officially set in operation the first unit of the mammoth station.

As Mr. Bilton, who has been associated with the Commission for the past 36 years, pressed the button, a large panel behind the dais lighted up spelling out the words, "More Power for all Ontario," to the accompaniment of enthusiastic cheering from the assembled audience.

Sharing honors with Dr. Holden was his wife who was presented with a bouquet of roses by Premier Frost. During the luncheon in the camp cafeteria following the ceremony, Premier Frost also presented an engraved silver tray to Mrs. Holden on behalf of Dr. Holden. At the conclusion all the luncheon guests were taken on a short guided tour of the development.

N.O.M.A. OFFICERS

J. S. McGREGOR, Assistant General Manager, Toronto Hydro-Electric System, has been elected Vice-President of the Toronto Chapter of the National Office Management Association for the ensuing year. G. A. Honsberger, Chief Accountant, Ontario Hydro, was named Corresponding Secretary.

Etobicoke Expansion

ETOBICOKE Hydro-Electric Commission has awarded a contract to a local builder for construction of three new substations. Total cost of the three new stations is estimated at $252,000. Installation of additional transformer facilities is necessary owing to increases in the local commission's load. In 1945 the Etobicoke utility was serving a total of 7,028 customers with a peak load of 9,200 kilowatts (12,300 hp.) By May, this year, the number of customers had reached 18,700 while the peak load totalled 31,000 kilowatts (41,600 hp.) The new transformers will be housed in bungalow type buildings and will have supervisory control units.

Keeping pace with the rapid growth of the municipality, the Etobicoke Commission also has under construction a new headquarters building which will be used for administrative, storage and service purposes. It is anticipated that the new structure will be ready for occupancy this December.

ANCIENT BULB

A Toronto newspaper reported the recent discovery of a light bulb in an old barn near Islington. The bulb is believed to have been made in Holland when light bulbs cost about $1.25 each.

IMPROVE FACILITIES

THOROLD Public Utilities Commission will spend $33,000 this year in proceeding with expansion and rehabilitation of that municipality's electrical system. Initiated in 1947, the program, to date, has cost over $100,000, with $27,000 of that amount spent last year.

Details of this program include: addition of two outdoor type 1,850-kva transformer stations; erection of modern street lighting standards and fixtures in the business section, and installation of improved facilities for handling the increasing operations of the local commission.

With the exception of a $5,000-debenture issue in 1922, the Thorold Commission has financed most of their improvements out of surplus funds. The present program will be assisted by a $60,000 debenture issue.

DISTRICT MEETINGS

THREE district associations of the O.M.E.A. have announced they will hold meetings in September. Georgian Bay M.E.A. will meet at Gravenhurst, Sept. 2 and 3. Thunder Bay Association will hold its annual sessions at Schreiber, Sept. 8 and 9 while the Eastern Ontario M.E.A. will convene at Kemptville, Sept. 17 and 18.

Western Section of the A.M.E.U. Accounting and Office Administration Committee will hold a meeting at London, September 24. Chairman Robert H. Saunders will be the principal speaker.

LUCKNOW PROGRAM

Additions and improvements to street lighting, and rehabilitation of local distribution facilities will be carried out shortly by Lucknow Hydro System, Reeve J. C. McNab, Chairman of the local commission announced recently.

Mr. McNab stated that Ontario Hydro has approved the expenditure of $5,700 for the program, and also authorized new street lighting rates.

F. F. AMBUHL DIES

FRANK FREDERICK AMBUHL, 66, retired Assistant to the Chief Engineer of the Toronto Hydro-Electric System died recently at his home after a lengthy illness.

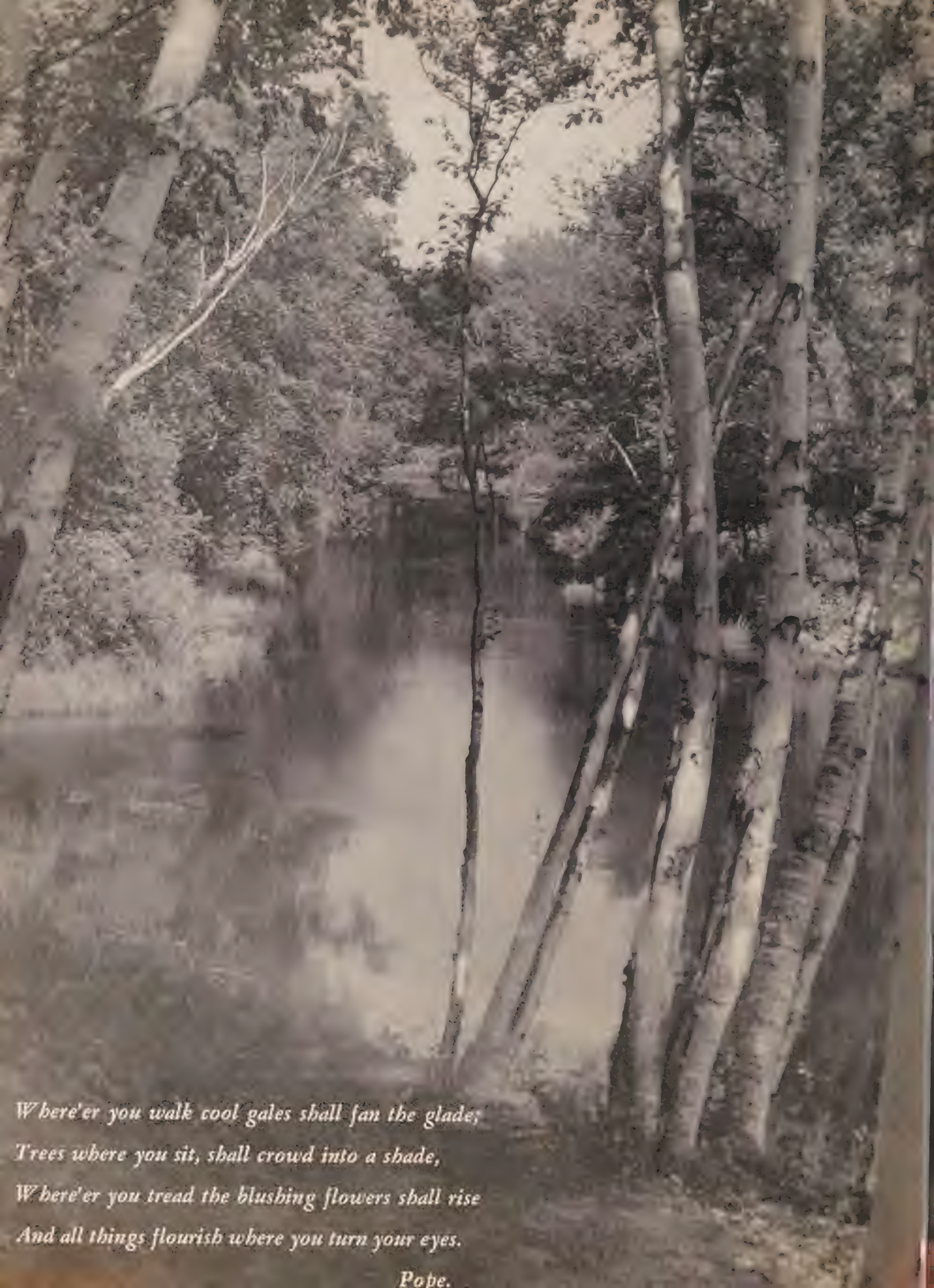
Well known in Toronto electrical circles, he was a past Chairman and honorary life member of the American Institute of Electrical Engineers and a member of the Canadian Electrical Association. Born at Farina, Ill., the deceased came to Canada 42 years ago, joining the staff of the Toronto System in 1912.

50TH ANNIVERSARY

DEDICATED to the cause of quality control and standardization of test methods in engineering materials, the American Society for Testing Materials celebrated its 50th anniversary at its annual meeting during the week of June 23 in New York City. The Society's observance of 50 years useful work is of special significance to engineers on the staff of the Commission's Research Division, many of whom have played a prominent role in its activities.



LOFTUS H. REID, Chairman, Toronto Hydro-Electric System, accepts an oil painting from H. J. MacTavish, General Manager, right. The gift was a gesture of good will from 27 department heads at a dinner on the eve of Mr. Reid's trip to England. The painting by the well known local artist, Fred H. Brigden, R.C.A., is described as "Autumn On The Don."



Where'er you walk cool gales shall fan the glade;
Trees where you sit, shall crowd into a shade,
Where'er you tread the blushing flowers shall rise
And all things flourish where you turn your eyes.

Pope.



ONTARIO HYDRO NEWS

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"Sailing, sailing . . . ."

VOL. 39 AUGUST, 1952 NUMBER 8



ONTARIO HYDRO News



AUGUST, 1952

VOLUME 39 NUMBER 8

Published by

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 University Avenue, Toronto

Gratifying - - and Significant

QUITE apart from its program of power development and expansion of its facilities to meet the demands of a rapidly growing population and phenomenal industrial activity throughout Ontario, the Commission is making satisfactory progress with its unique frequency standardization project in Southern Ontario.

Illustrating this fact, is the announcement that more than one million 25-cycle appliances owned by 228,336 customers have been altered for 60-cycle operation since the program was formally launched late in 1948.

Changeover to 60-cycle frequency has been virtually completed in Standardization Area "D"—the Stratford-St. Marys-Seaforth section of Southern Ontario. Completion of Area "D" has reduced the size of the "island" by 1,386 square miles. Together with other completed Areas: "A," "B," "C," and "M," this makes a total of 4,809 square miles of former 25-cycle "territory" now served with 60-cycle power.

This is gratifying news in view of the growing relationship between Ontario Hydro's transmission facilities and those of other systems in Canada and adjacent sections of United States.

Statistics released by the Frequency Standardization Division relating to the number of electrical appliances changed over during operations in each Area tell an even more gratifying and significant story of the vital role that electricity plays in the lives of Ontario citizens—an accurate barometer of our standard of living.

In Area "D" for instance, some 82,408 frequency-sensitive items, owned by 20,141 power, commercial, rural and domestic customers were altered for operation at the higher frequency. Of these items, 63,394 belonged to 17,383 domestic customers. In Stratford, the saturation of washing machines was particularly high, as in some sections of that city it was found that 95 percent of domestic customers owned this type of appliance.

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PHOTO CREDITS

LAKE ONTARIO'S sparkling waters offer a pleasant summer pastime for many Torontonians who forsake the city streets to add another chapter to their sailing logs as depicted in the Ontario Department of Travel and Publicity photo on this month's front cover. The photograph on the back cover shows Hydro's Alexander Generating Station on the Nipigon River in Northern Ontario. On page 32 of this issue we proudly present an unusual impression of the St. Lawrence River by Malak, Ottawa.

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In a quiet stretch of the St. Lawrence between the Galop Canal and Long Sault Rapids, a cargo vessel rides at anchor

Swan Song

NOW GLAD WHOOPING

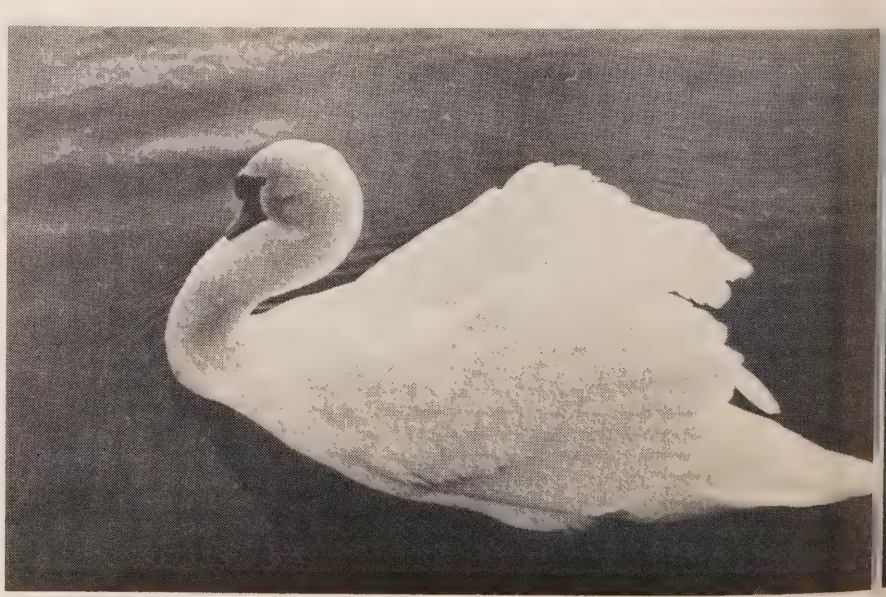
by
Harry M. Blake
Hydro News.

SPRING at long last had come to the Arctic. The snow and ice which covered the vast tundra lands northwest of Hudson's Bay were rapidly disappearing. Everywhere bright patches of moss and lichens were showing and the bluish-white flowers of the precocious Anemone Parviflora were spreading in all directions, like a carpet unrolling to the rays of the sun.

Thousands of whistling swans, just arrived at their favorite nesting grounds, were engaged in what an observer might well take for a May Day celebration—preening their feathers, rustling their wings, dancing about on their broad, webbed feet, darting their long necks at imaginary skunks and weasels, and generally making merry.

There was a particularly good reason for this avian exuberance. A roll-call had just been taken, and the discovery made that these splendid birds had suffered fewer casualties on their long migratory flight from the southern wintering grounds than had ever been recorded before.

"I should like to give credit where credit is due," whooped their experienced old flight leader in his broadcast from CYGNUS Radio station, Northwest Territories. "Hundreds of you would not be here today if it were not for the



RESTING during a migratory flight, this Whistling Swan floats serenely down the Niagara River without thought of the danger ahead.



weir built by The Hydro-Electric Power Commission of Ontario.

"I'm calling, too, for your best wing flutter in salute to the Governments of Canada and the United States. They got together and decided that this weir should be built. The U.S. Government built some remedial works on the American side of the river and a cable line to help out in the construction of the weir. The United States paid half the cost of the total undertaking."

"What's old Bill grunting about," scoffed a first-flight cygnet. "I was talking to a mallard duck back there on Lake Erie, and he told me that men were greater enemies of water-fowl than the snapping turtles. All they did was to shoot at them."

"They don't shoot at us," stated an older swan, proudly arching its neck. "We're protected."

"Listen!" admonished a veteran of twenty flights with a warning lifting of a wing that could break a man's arm or leg or even his back. "Big Bill has logged over 200,000 air hours. He knows what he's talking about."

"It's the weir those friendly Ontario Hydro people have built in the Niagara river," repeated the leader. "Before it was constructed, we used to lose up to four or five hundred of our numbers every year—often our most eligible bachelors—swept over the brink of those terrible Falls. Nowadays, there are practically no fatalities at all. And something I think will interest all you married folk —this year we were able to get migratory

(Continued on page 4)

ABOVE—Broken water at the submerged weir (indicated by arrow) awakens day-dreaming swans to peril downstream. In the smooth water between weir and "Cascades" rapids (left) they have time to take off and avoid being carried over Niagara Falls to their death. BELOW—Constructed by Ontario Hydro and the U.S. Government, the weir helps to distribute flow over the American Falls. The weir is about three-quarters of a mile below Chippewa.



(Continued from page 3)

group insurance at the lowest premium rates in history."

From the nesting grounds which extend far into the Yukon and Alaska there was a loud and prolonged whooping as myriads of Canada's largest and finest birds gave voice to their pleasure and approval.

Saving Thousands of Swans

Naturally, the echoes were heard at the Royal Ontario Museum in Toronto, whose staff has been foremost in encouraging the conservation of Canadian wildlife.

"You Hydro people have really done something over there at Niagara," said J. L. Baillie, Research Assistant of the museum's Division of Ornithology. "I think the public ought to know about it. For years and years we have been trying to find a way to reduce the casualties to Canada's most magnificent birds, and now with the building of this weir, the problem has been practically solved."

"The primary purpose of the Niagara weir was to—," we began.

"I don't give a hoot what the primary purpose was," interrupted Mr. Baillie. "That weir of yours is going to save countless thousands of birds. It's tremendously heartening."

He thumbed through a book of collected records dating back to the North American diary of the famous traveller, Peter Kalm, Swedish botanist, who visited Niagara in 1751.

"Thousands and thousands of swans killed or crippled," he muttered, "going over the brink of Niagara Falls. On March 15, 1908, nearly 400 bodies were fished out of the river."

"How does it happen?" we asked.

"They're very heavy birds. The adult male weighs 20 pounds or more. Swans' feet are set far back in the body. They have to rise from the water in a long run, like an airplane taking off. When they alight on the upper Niagara river, they drift down with the current, and they don't realize the danger until it is too late to do anything about it."

"You would think that they would have some memory of the casualties suffered and change their migratory route," we suggested, rather lamely.

Mr. Baillie smiled tolerantly at our ignorance.

"Birds don't like to change their migratory routes. Anyway, the survivors would have little appreciation of the fate which befell their unfortunate comrades."

The Atlantic coast winter feeding grounds of the whistling swan, Mr. Baillie pointed out, were practically confined to the neighborhoods of Chesapeake Bay, Maryland; Back Bay, Virginia, and Currituck Sound, North Carolina.

Long Flight to Arctic

In flying north to their nesting grounds in the Arctic, the birds pass over the "finger lakes" of New York State and come down to rest and feed on the Niagara river, Lake Erie and Lake St. Clair. Conditioned by a comparatively short flight and good Canadian "pond" feeding, they are now in shape for an amazing performance—a journey of perhaps 2,000 miles without further landings. This brings them within a day or two's flight of their destination. Already far removed from man and civilization, they then apparently rest again until conditions in the higher latitudes are favourable for nesting.

"Swans in flight are a magnificent sight," enthused Mr. Baillie. "They fly in column like soldiers on ceremonial parade. On migratory flights, division after division stream across the sky. They fly with their long necks as straight as a ramrod, and they have a wing spread of 72 to 78 inches—greater even than that of the bald-headed eagle. Big bird as it is, the whistling swan—which doesn't really whistle but makes a whooping call—is smaller than the trumpeter swan of the prairies and the far west. A few years ago this latter species of swan was nearly extinct, but, due to careful preservation, there are now estimated to be about a thousand nesting in Canada.

"The swans seen in Canadian parks," Mr. Baillie explained, "are not the native species. They are the mute swans indigenous to Europe, or, sometimes, the

(Continued on page 13)





MEMBERS of the 1952 executive of the Central Ontario Association, front row, left to right, Second Vice President, Norman Redsell, Etobicoke H.E.C.; President, Don Foreman, Mimico P.U.C.; First Vice-President George Van Bridger, Bowmanville P.U.C. Second Row, left to right, Secretary-Treasurer Alex Christie, North York H.E.C.; Tom Honan, New Toronto P.U.C., and Past President S. B. Upper, H.E.P.C.

DISCUSSING Hydro problems during a recess, this trio includes, left to right, Jack Risebrough, Oshawa P.U.C.; F. E. Moore, H.E.P.C., Belleville and Henry Baldwin, Oshawa Public Utilities Commission.

Discuss Power Factor

Central Ontario Metermen Hear Talk on New Metering Regulations

N. J. LAKE, Industrial Survey Engineer, Ontario Hydro, was guest speaker at a recent meeting of the Central Ontario Metermen's Association held at the Genosha Hotel, Oshawa.

During the meeting, which was in charge of President Don Foreman, Mimico, members unanimously endorsed a recommendation to affiliate with a proposed Council of Metermen's Associations. (Organization of this council, to which reference is made elsewhere in this issue, was completed at a subsequent meeting in Toronto).

During the presentation of his paper on "Power Factor Surveys and Economics," Mr. Lake dealt with the methods of ascertaining power factor and the benefits accruing to local utilities in improving customers' power factor.

At the afternoon session, J. R. Gardiner, Standards Division, Canadian Department of Trade and Commerce, reviewed recent changes in government regulations pertaining to electrical standards.

This session also featured a discussion on the relative merits of four and five-dial meters.

During the luncheon, G. F. Shreve, General Manager, Oshawa P.U.C., welcomed the guests to Oshawa.





CONGRATULATIONS to Norman Lake, Industrial Survey Engineer, Ontario Hydro, guest speaker, are extended by Charles Legg, East York H.E.C. Carl Johnson is on the right.

MUNICIPAL STANDARDS *Conference*





UPPER PHOTO—Delegates posed on steps of main lodge at Bigwin Inn for this photograph at the conclusion of the conference. LOWER PHOTO—This group, which includes Douglas Seath, Woodstock; S. R. McBrien, Aylmer; J. A. Williamson, Niagara Falls; A. B. Des Roches, G. E. Kewin and Aaron Gusen, Ontario Hydro, was enroute to another session when the *Hydro News* photographer caught them in this pleasant rustic setting.

NOTABLE progress has been made by the Overhead Construction and Maintenance sub-committee of the A.M.E.U. Municipal Standards Committee which was now in a position to present tentative standards.

This information was divulged by Norman A. Grandfield, General Manager, Galt P.U.C. and Vice-President of the A.M.E.U., who delivered the keynote address at the recent Municipal Standards Conference at Bigwin Inn, Lake of Bays, sponsored by the association.

The conference, held primarily to hear and discuss reports of the three sub-committees of the Municipal Distribution Systems Committee, attracted a wide and enthusiastic attendance from many parts of Ontario.

While admitting that standardization, in some cases, deprives persons and businesses of some of their individuality, the speaker pointed out some of the advantages which accrue to the manufacturer, distributor and customer by the adoption of well-planned standards:

(a) Production and employment are more

(Continued on page 8)



BASKING in the sunshine during a conference recess, M. J. McHenry, D. I. Nattress, K. C. Coleman, A. G. Code, Douglas Gordon, and Eric Martyn, Ont. Hydro delegates, were not wasting any time in tackling what appears to be an interesting problem.



CUSTOMARY PRELIMINARY was the registration period during which this photograph was taken showing a group of delegates filling out the necessary applications.



WHILE their husbands were attending one of the sessions during the conference, this group of ladies was enjoying a cruise around Muskoka's picturesque Lake of Bays.



H. P. Cadario



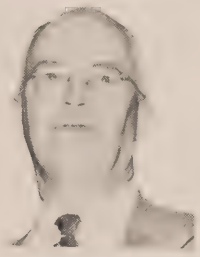
A. L. Furanna



M. J. McHenry



N. J. Grandfield



A. W. Murdock



R. E. Jones



F. H. Plant



R. H. Martindale



D. P. Herring



P. J. Croft



Aaron Gusen



J. G. Sutherland



(Continued from page 6)

stabilized since it is possible to accumulate inventories of saleable merchandise;

(b) Costs are reduced in manufacturing by mass production methods and the cost of distribution is greatly affected by the smaller number of articles which must be kept in stock to assure prompt deliveries;

(c) Standardization promotes fairness of tendered prices since it is possible to make ready comparisons on the basis of standard materials being supplied;

(d) From the aspect of design and engineering, specifications are greatly simplified;

(e) Standardization tends to improve product design since the men employed in improving products can give more attention to the smaller number of products for which they are responsible;

(f) In operating utilities, it is possible by standardization, that, with a smaller inventory, replacement parts are available which suit the type of construction which has failed, thereby limiting outage periods, and,

(g) Products which do not measure up to the specifications of the standard will be withdrawn from the market to the benefit of customers.

During his remarks, Mr. Grandfield traced the events which preceded the formation and appointment of the A.M.E.U. Municipal Standards Committee in 1950.

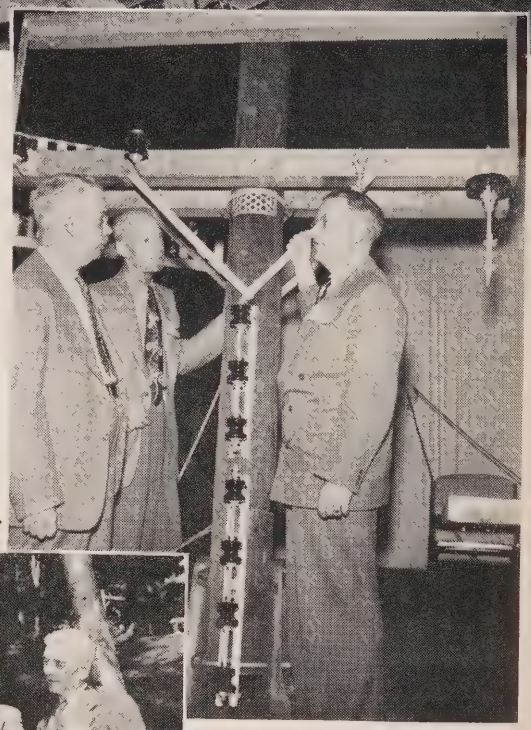
The other two sub-committees: Subtransmission and Distribution Systems, including Stations, and the Underground Construction and Maintenance Committee "are still breaking ground," he said.

In concluding his remarks, the speaker appealed for the active participation of each delegate "because it is only by means of your expressed opinion that any acceptable standard can ever be published."

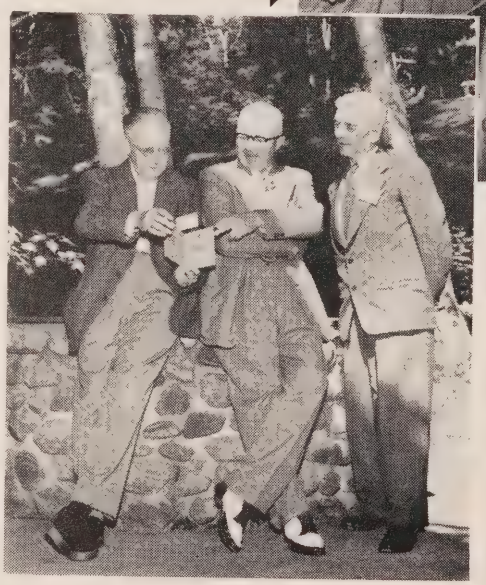
Delegates seemed to take Mr. Grandfield at his word, for there ensued, dur-

(Continued on page 29)





UPPER PHOTO — Under the auspices of the A.M.E.U. Municipal Standards Committee, conference attracted wide attendance from all parts of the province. RIGHT —Final session heard reports from the Overhead Construction and Maintenance Section under Chairman G. L. Lillie, Toronto Hydro. E. J. Woelfle, Toronto Hydro, also gave a paper while S. C. Webster, right, gripping cross-arm of demonstration model of pole line and equipment discussed "Salient Features on Standards for Overhead Lines."



STUDYING conference agenda are Tom Griggs and Tom McCutcheon of Dunnville with Robert Reilly, Chairman, Port Dalhousie P.U.C.

SCARBORO COMMISSIONERS and charter members of the newly-formed Scarboro P.U.C. Quarter Century Club were photographed prior to the first annual dinner held recently. They are, front row, left to right, Reeve O. E. Crockford, Commissioner A. O. Leslie, Chairman John Brown, Ronald Harrison, Manager and Secretary-Treasurer; H. J. Douglas, K. H. Anthony, Assistant Engineer. Back row, left to right, V. G. McClague, W. E. Maybury, Walter Gillam, W. R. Montgomery, John Monks, E. M. Kerr, H. J. Collinson, and B. W. Charron. Member, A. R. Prosser, was absent.

312 Years' Service

Scarboro P.U.C. Employees Hold First Quarter Century Club Dinner

ELEVEN employees of Scarboro Public Utilities Commission, with a total of 312 years' service to their credit, became charter members of the local commission's new Quarter-Century Club at the first dinner recently.

Although the dinner, attended by Commissioners and all employees, was a happy event, particularly for those honored with special presentations, there was a general feeling of regret that two "old timers" were not present to celebrate the auspicious occasion.

Associated with the Scarboro utility for 31 years and 28 years respectively, Thomas Siviter and Frank Dix died a short time previous to the first dinner of the new club. Another veteran employee, A. R. Prosser, 25 years' service, was unable to attend owing to illness.

Highlight of the dinner was the presentation of Quarter-Century pins and $25 cheques to each of the long-service employees and an announcement regarding three weeks' holidays. Joining the Club were: V. G. Clague, 27 years' service; W. E. Mayburv, 30 years: Walter Gillam, 27 years; W. R. Montgomery, 31 years; John Monks, 31 years; E. M. Kerr, 27 years; H. J. Collinson, 30 years; B. A. Charron, 25 years; Ronald Harrison, Manager and Secretary-Treasurer, 29 years, and H. J. Douglas, 30 years.



JOHN MONKS, third from right, Scarboro P.U.C. employee with longest record of service (31 years) receives congratulations from Reeve O. E. Crockford, right. Others in group include P.U.C. Chairman J. Brown, Manager Ronald Harrison, Comm. A. O. Leslie and H. J. Collinson.

Example of Success

New P.U.C. Building Officially Opened at St. Thomas

ST. THOMAS, one of the original municipalities to sign a contract with Ontario Hydro, stands today, as an example of the success and growth of Hydro in this province.

These words highlighted an address by Chairman Robert H. Saunders as he officially opened the new $100,000 headquarters building of the St. Thomas Public Utilities Commission on June 23. Attending the ceremony which was held at the entrance to the new building were representatives of municipal, provincial and Federal governments; Ontario Hydro and municipal Hydro Commissions, as well as present and former members of St. Thomas P.U.C. The opening ceremonies followed a reception at Alma Villa where a buffet luncheon was served on the spacious lawn.

Steady Growth

During his address, Mr. Saunders referred to the steady growth of Hydro service and use in St. Thomas since 1911 when power from Niagara Falls was first turned on by Sir Adam Beck. He recalled that in 1920 the average monthly domestic consumption was 36 kilowatthours. By 1938, this figure had reached 224 kwhrs. and today, it was 329 kwhrs. —an increase since 1938 of 46.9 per cent.

"This is a tremendous increase," he said, "and shows a higher and higher standard of living in the homes of St. Thomas."

Commercial consumption has increased as well, the speaker continued. In 1938 the average commercial consumer used 572 kilowatthours monthly, while that figure had reached today—1,035 kwhrs. —an increase compared with 1938 of 80.9 per cent.

Chairman Saunders was introduced by Richard T. Gilbert, Chairman of the St. Thomas Commission, who also welcomed the other guests. During his remarks he also presented a brief outline of the development of the Hydro and waterworks departments. Chairman for the occasion was J. W. Peart, General Manager and Secretary of St. Thomas P.U.C.

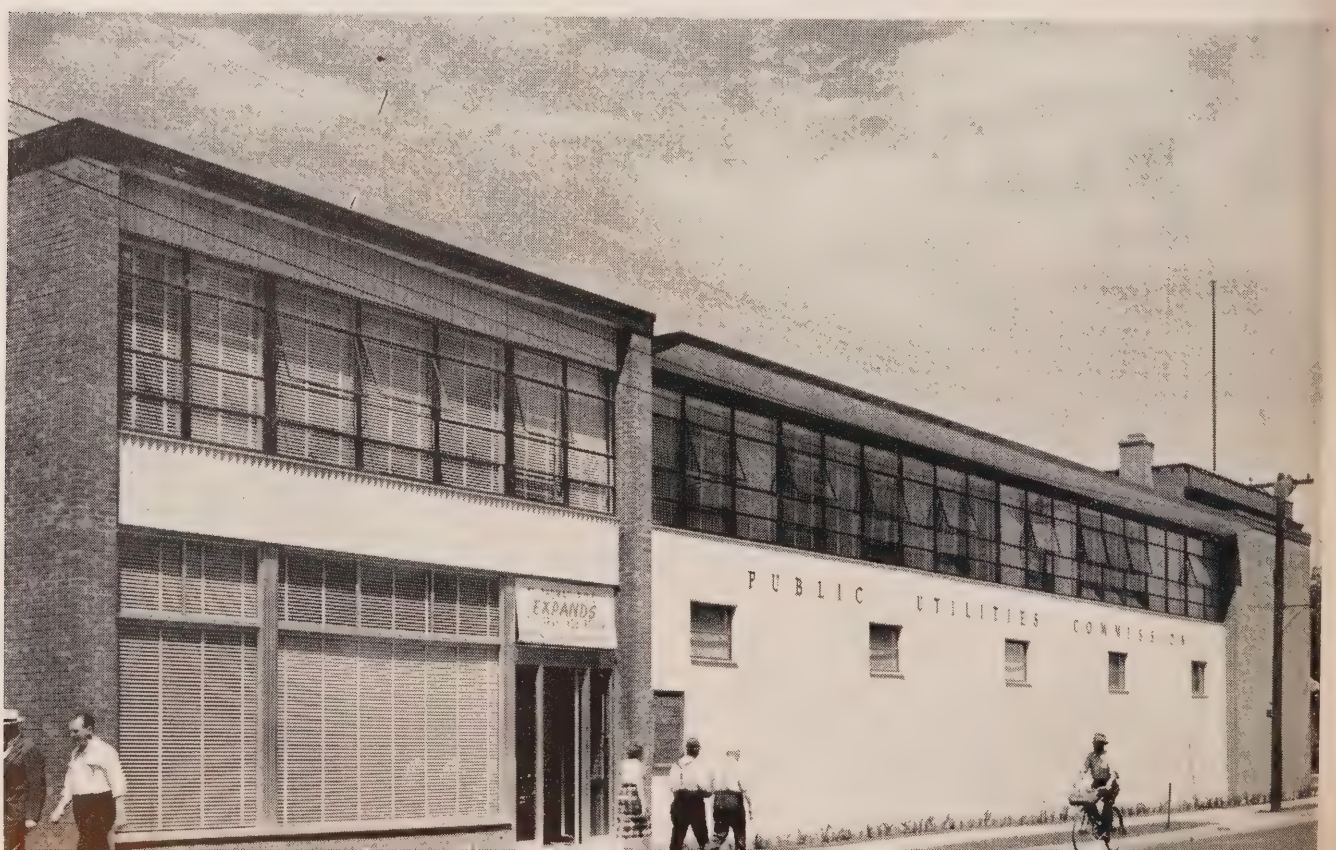
Expanding Community

Mayor T. H. Currah, expressing thanks to the commission on behalf of the citizens of St. Thomas, said completion of the new office is "a definite step forward in an expanding community," and was planned so that the functions and responsibilities of the commission might be more efficiently handled.

Speaking briefly at the ceremony, also, were A. W. Manby, Assistant General Manager—Administration, Ontario Hydro; R. M. Laurie, Manager, Western Region; C. D. Coyle, M.P., Elgin, and Warden Ronald K. McNeil, Reeve of South Dorchester. The red ribbon at the entrance

(Continued on page 12)

NEW $100,000 HEADQUARTERS BUILDING OF ST. THOMAS P.U.C.



TRANSACTION between Cashier Iris Faulkner and Mrs. H. Schroder has a "heightened" interest for Mrs. Schroder's grandniece, Joanne Fyle. Desk is on main floor.

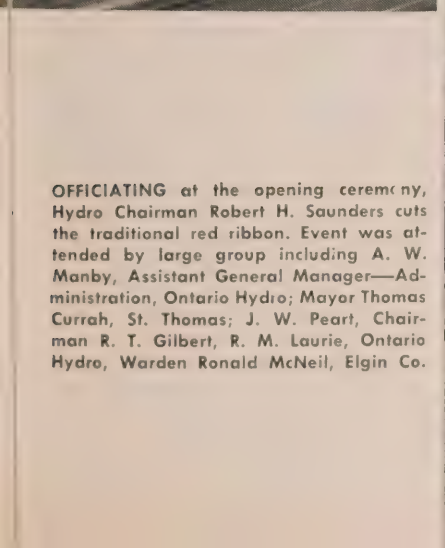




VIEW of main business office on second floor. Relaxed in comfortable surroundings but diligently pursuing their duties are commission employees Gertrude King, receptionist, Georgia McAvey, Marion Smith with Thersia McKegan and Orme Kilborne, rt.



CHATTING after the opening ceremonies, each with a favorite cigar, are General Managers, J. W. Peart, St. Thomas, and A. B. Manson, Stratford Public Utilities Commission.



OFFICIATING at the opening ceremony, Hydro Chairman Robert H. Saunders cuts the traditional red ribbon. Event was attended by large group including A. W. Manby, Assistant General Manager—Administration, Ontario Hydro; Mayor Thomas Currah, St. Thomas; J. W. Peart, Chairman R. T. Gilbert, R. M. Laurie, Ontario Hydro, Warden Ronald McNeil, Elgin Co.





DISCUSSING a billing problem are Mrs. Joyce Smith, billing machine operator, and F. T. Ford, Assistant to the General Manager. Billing room is located on second floor of new building.

(Continued from page 10)

to the new building was cut by Mr. Saunders. Dedicatory prayers were offered by Rev. Paul Storms, President of the St. Thomas-Elgin Ministerial Association, and Rev. Fr. Keelan, Holy Angels Roman Catholic Church, St. Thomas.

Following the opening ceremonies, the public was privileged to inspect the handsome structure with members of the office staff acting as guides.

Two-storey Structure

The beautifully-designed, two-storey quarters, planned to provide sufficient accommodation to meet increasing requirements during the next 25 years, completes the local commission's aim of centralizing all service buildings at one point. Located on St. Catherine St., adjacent to the new 14-car garage and workshop building erected last year, this latest unit is also directly connected by underground passage with a large substation. Stock and supply rooms are located on the main floor off the lobby where space has been allocated to a cashier's desk for payment of customer accounts.

Accounting and administration offices

(Continued on page 31)



SEVERAL FORMER MEMBERS of the St. Thomas Commission attended opening ceremonies, including left to right, Roy Bowey, Ernest Seeger, and Ernest Duckworth, former Mayor of St. Thomas, shown with Doreen Regan and Georgia McAvey, staff members, during inspection tour.

SWAN SONG

(Continued from page 4)

Australian black variety. All swans, when disturbed or annoyed, can be formidable and even dangerous antagonists, giving paralyzing blows with their powerful wings as well as a wrench with their bills that can tear the shirt off one's back."

Weir Warns Birds of Danger

But just how does the Hydro weir save the swans from destruction at Niagara?

The weir, as regular readers of *Hydro News* will recall, was commenced in September, 1942, and finished in September, 1944. Its purpose was to raise the level of the Chippawa-Grass Island pool in the Niagara River by approximately a foot to compensate for the additional wartime power diversions and to maintain a satisfactory flow over the American Falls. It is located about ¾ of a mile below Chippawa and above the intake of the Ontario Power plant, long owned and operated by the Commission. It extends approximately 1,800 feet out into the river, nearly to the International boundary, and over its entire submerged length it has created a crest of broken water.

When the swans, sailing confidently down on the treacherous current, get into this rough water they become frightened and seize the first favorable opportunity to take off. This is afforded by the smooth water just past the weir and still at a considerable distance from the brink of the Falls. Once in the air, they see the real danger ahead and are careful not to land on the river again.

But do not a good many swans go down the less protected American side of the river and over the American Falls? The answer is that they do not. They seem to prefer the Canadian side with its larger volume of water and the thrill of its faster-moving current.

Ontario Hydro, although inadvertently, at a cost of approximately $800,000, to which the United States contributed on a fifty-fifty basis, has given the whistling swan a protection that it is felt this splendid bird should recognize by making a longer sojourn in our waters.

More than 87 per cent of all Canadian homes had electric lighting in 1951.—*D.B.S. News & Notes.*

"The Lineman"

They sings of the men as goes down to the sea;
Of the heroes of cannon and swords;
An' writes of the valors of dead chivalry,
An' the bravery of old knights 'n' lords.

They sighs 'cause the romance of knighthood is past.
'Cause there ain't no high ideals no more,
They says that this old world's a-rollin' too fast
To develop that "esprit de corps."

But them as complains are the one as don't know.
Who sits where it's warm and then kick—
They ain't never seen a line saggin with snow,
And had to get Service back—quick!

They ain't never struggled with Death at their side,
A-snappin' and hissin' and pale,
Nor clung to the towers and grimly defied
The assaults of the blizzards and gale.

They sit and are served with never a thought
Of the fellers out pluggin' like heck
To supply at their touch the service they've bought
With a light, or the sound of a bell.

These fellers ain't togged out all shinin' in steel,
They don't ride around on no hoss,
They don't sing no songs about how they feel
In the gales when the feeders may cross.

They don't wave no banners embroidered in gold,
In Latin nobody can read,
They don't do no braggin' of deeds that were bold,
Their motto is "SERVICE and SPEED."

Their armour ain't nothin' but slickers and boots,
Their weapons are climbers and pliers,
Their battles are fought up where hi-tension shoots,
An' death lurks unseen on the wires.

They're fightin' the gales and the blizzards an' ice,
Protectin' the towers and span,
With effort not measured in hours or price—
For one Cause—just Service to man!

So here's to the Lineman—the Son-of-a-Gun
That can do without sleep for a week!
That sticks to the job 'til it's every bit done,
And the feeders can carry the peak.

For his is the Knighthood that's noblest by far,
That highest and mightiest clan,
That's fightin' the battles of Things-as-they-are,
In the cause of the Service of man.

Author Unknown.





Scenic Substation— Members of the staff of Toronto Township Hydro-Electric Commission are proud of the tasteful job of landscaping that has been done on the local commission's new $50,000 substation at Cooksville. Located close to a residential area, the station is a totally enclosed unit, mounted on a concrete slab, with underground primary and secondary feeders. In this photo, R. H. Starr, Manager-Secretary; Jack Gomer, Accountant, and Sam Pollock, Treasurer, examine the rows of 12 and 10-foot cedars planted outside the link fence which encloses the station. Adding to the pleasing effect are various types of shrubs planted at various intervals between the cedars. With seeding of the surrounding area planned for this fall, Mr. Starr states it is hoped that no part of the station will be visible within a year.



Lighting Winners— In the biennial Canadian Electrical Association Lighting Data Sheet Contest this year, presentations of two Ontario Hydro representatives were among the winners. W. F. C. Nottelman (with the Commission's Generation Department when he submitted the entry, but now associated with the Amalgamated Electric Corporation Ltd., Toronto) received first prize for his paper on the lighting installed in the control room at Hydro's Pine Portage G. S. Thomas Dickson, Supervisor, Lighting Service Section, Consumer Service Division, received second prize for his description of a lighting installation at a St. Thomas department store and an Honorable Mention for his presentation on new lighting designed for All Saints' Anglican Church, Peterboro. Awards were presented at the 62nd annual convention of the C.E.A. at Banff, Alta., a few weeks ago, during which J. A. Blay, Hydro's Director of Public Relations received the awards on behalf of the winners from I. A. (Tony) Mahon, Winnipeg Electric Company, left.

NEWS



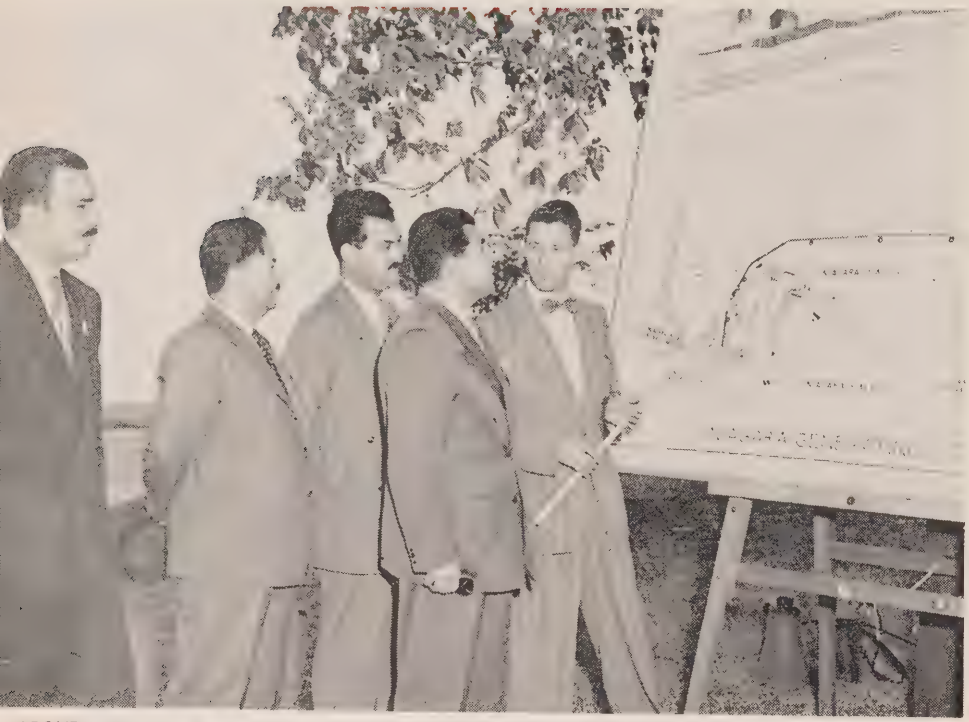
Blessed Event — Boxes of cigars made in their home city were presented by Mayor Curtis Hixon and President David A. Falk of the Greater Tampa (Florida) Chamber of Commerce to Acting Mayor George Inglis and President R. C. Young of the Greater Niagara Chamber of Commerce when a party of 15 Tampa business men visited Niagara Falls, (Ontario) recently as part of a Canadian goodwill tour that took them to Toronto, Montreal and the Laurentian Mountains. During their visit the Floridians toured the Sir Adam Beck No. 2 development and were guests at luncheon in one of the project cafeterias. The accompanying photo shows Mayor Hixon (right) presenting the cigars to Acting Mayor Inglis.



Meter Council — Organization of the Council of Metermen's Association of Ontario was completed during a recent meeting at the Head Office of Ontario Hydro in Toronto when S. B. Upper, Ontario Hydro, was named Chairman, with J. P. Dawson, Manager, Dunnville P.U.C., and N. J. Lake, Ontario Hydro, as Vice-Chairman and Secretary-Treasurer respectively. Main objective of the new council is the development of better metering methods in Ontario. It will, as well, co-ordinate activities of member associations, assist them in obtaining program material, and provide liaison with various electrical associations throughout Canada. Already an invitation has been received to have representatives on the Service Connections and Metering Sections of the Canadian Electrical Association. Photo on the right shows representatives at the organization meeting, left to right, N. J. Lake, H.E.P.C.; Otto Reiber, Waterloo P.U.C.; F. E. Schooley, Welland H.E.C.; J. P. Dawson, Dunnville P.U.C.; G. E. McClymont, Chatham H.E.C.; Don Foreman, Mimico P.U.C.; Sam Murchie, Brantford Twp. H.E.C.; C. E. McGuire, Ottawa H.E.C.; S. B. Upper, H.E.P.C.

From all the Four

International Red Cross Delegates Visit



ABOVE—First stop during the tour was at the intake for Hydro's 1,200,000-horsepower Sir Adam Beck Generating Station No. 2. Here, with the aid of a scale map, Ass't. Field Project Engineer William Hogg explains salient features of the project to Turkish delegates, left to right, Tevfik Dundar Saracoglu, Ismail Hakki Akyuz, Fuad Seyhun and Nedim Abut who were among visitors.

FROM the four corners of the globe they came for the most humanitarian purpose on earth — the 18th International Red Cross Conference.

And for almost three weeks, in Toronto's Royal York Hotel, around 600 delegates: doctors, nurses, social and welfare workers, professors and government representatives, some even of royal birth, and speaking scores of different languages, listened to addresses, heard reports of progress, and discussed new and improved methods of carrying on their great mission.

During these exhaustive deliberations, designed to further Red Cross ideals the world over, some 400 of the delegates took time out from their busy schedule to see the world-famous Niagara Falls and the largest power project ever undertaken in this province as guests of Ontario Hydro.

Chartered Buses

Shortly after luncheon on July 31, they

BELOW—International Red Cross d famous floral clock, the largest in Niagara Generating Station No. 1, for this panoramic photograph duri



rners of the Earth

s Largest Power Project at Niagara Falls

boarded nine chartered motor coaches outside the hotel for a trip through rural Ontario to the Niagara district. On each bus was a representative of Hydro's Public Relations Division who acted as conducting officer. With Red Cross attaches interpreting in various languages for those aboard each bus who did not converse in English, the conducting officers described points of interest enroute to Niagara Falls, such as Hydro's Research Division Laboratory on Strachan Avenue in Toronto; the Canadian National Exhibition; Sunnyside Amusement Park; the Ford Motor Company's plant under construction near Oakville; the City of Hamilton; the City of St. Catharines; fruit orchards in the Niagara Peninsula, and the Welland Canal.

View Intake Structure

First stop for the buses, which travelled in convoys, consisting of three buses to

(Continued on next page)



ABOVE—Final stop on the itinerary was at one of the three cafeterias established to fee workers employed on Hydro's largest power project. Here visitors from practically every countr in the world enjoyed the typically Canadian food served by the efficient catering staff. W Ross Strike, Q.C., Second Vice-Chairman, extended an official welcome following the dinne

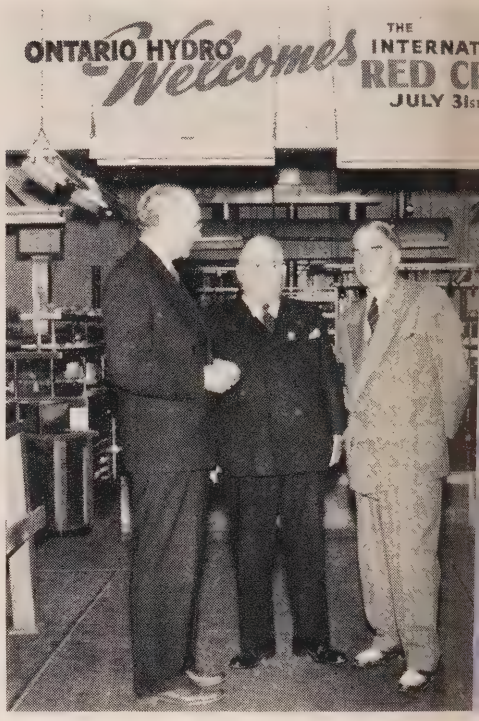
particular interest in the Commission's north side of the Sir Adam Beck— the left, where they posed, en masse, of their visit to the Niagara district.





ABOVE—I.R.C. visitors were among the first to use the new observation platform above the Niagara River gorge to obtain an unobstructed view of new powerhouse site and the existing generating station.

BELOW—Replying to the address of welcome by W. Ross Strike, left, was Norman C. Urquhart, member of the Central Council of Canadian Red Cross Society and Chairman of Conference Entertainment Committee, centre, with William L. Houck, M.P.P., Niagara Falls.



From the Four Corners of the Earth

(Continued from page 17)

each convoy, was the site of the intake for Hydro's new Sir Adam Beck development. Here, William M. Hogg, Assistant Field Project Engineer, with the aid of a scale map, outlined salient features of the mammoth, 1,200,000-horsepower project for the interested visitors.

Then they boarded the buses again for the short trip to the roaring Niagara cataracts. While the spot from which they viewed the Canadian and American Falls is visited almost daily by people from many parts of the world, it was the first occasion, in many years, that such a large international group had admired this spectacle simultaneously. And like thousands of other Niagara visitors, they took snapshots of fellow-delegates, "shot up" the falls, bought souvenirs, took the small sight-seeing trips, and sent postcards to their friends and relatives at home.

Next stop was the site of the powerhouse and power canal of the new Sir

STANDING on top of the screenhouse of Sir Adam Beck No. 1 G. S., Hydro Photographer Bud Barnett took this photo of delegates looking at Niagara River from new observation platform projecting over cliff.



BERLIN NEWSPAPERMAN Torquato T. Guendel, another International Red Cross delegate, chose familiar Canadian Horseshoe Falls as background for photo of his wife and Elizabeth Wakelin, Mount Forest, Ont.





FAR FROM HOME but obviously enjoying themselves are these two Japanese visitors, Masanao Toda and Zenichi Joshima, chatting while seated on the parapet with the Canadian Falls in the background.



REPRESENTING the Republic of Korea were these male delegates, left to right, Chang Lee, Dr. Byron Y. S. Koo and Sung Soo Whang with Miss Yung Chang Kim who is studying history at the University of Toronto.

Adam Beck No. 2 development and the adjacent Sir Adam Beck No. 1 Generating Station.

New Observation Platform

The new observation platform built by Hydro, which projects approximately 30 feet out from the concrete parapet at the top of the gorge, afforded the Red Cross delegates an unobstructed view of the new powerhouse site, power plant construction, and the existing Sir Adam Beck No. 1 G. S. nestling at the base of the cliff.

From this point, Hydro's guests were conducted on foot to the Commission's floral clock — the largest in the world — where they posed, en masse, for a panoramic photograph and admired the 24,000 or more plants that make up the face of the unique timepiece.

Visit Project Hospital

As an added feature of the visit, several medical representatives of the Red Cross, inspected the modern facilities of Hydro's 30-bed hospital accompanied by Dr. D. K. Grant, Medical Officer.

After an enjoyable afternoon of sight seeing, the guests made their final stop at Camp No. 2 cafeteria where they did full justice to a typically Canadian meal.

At the conclusion of the dinner, W. Ross Strike, Q.C., Second Vice-Chairman, extended the Commission's official welcome to the Red Cross visitors. On their behalf, Norman C. Urquhart, Toronto, Chairman of the Conference Entertainment Committee, and a member of the Central Council of the Canadian Red Cross Society, expressed appreciation of Hydro's hospitality.

And so concluded one of the most memorable visits to this great Canadian showplace.

INSPECTING powerhouse foundations at Sir Adam Beck No. 2 project from observation platform are these Indian visitors, Dr. J. N. Vazifdar, Belwant Singh Puri and B. M. Jolly.



DISTINGUISHED Spanish delegates, Comte de Rouge, Secretary-General, League of Red Cross Societies, Duchess de Hernani, Duchess de la Victoria and Duke de Hernani were also guests of Hydro on the tour.



Sound Investment

Accounting departments have played vital role in creating public confidence in Hydro





CONFIDENCE in Ontario Hydro as a sound investment, manifested on many occasions by Canadian and U.S. investors and investment houses, is due, in a measure, to the operations and practices inaugurated by the Commission's accounting representatives.

This interesting observation was made by W. Ross Strike, Second Vice-Chairman, addressing delegates during a luncheon session at the first conference sponsored by the Eastern Division, A.M.E.U. Office Administration & Accounting Committee. The conference held at Rideau Ferry, near Smiths Falls, was attended by a large group of delegates from Eastern Ontario as well as others parts of the province.

Gratifying Response

Pointing to the fact that approximately $720,000,000 had been raised through the sale of bonds since the Commission inaugurated its unprecedented expansion program seven years ago, the speaker said that public interest in these Hydro bond issues had been particularly gratifying.

"Accountants are responsible to a great extent, for the excellent position which Hydro is in today," Mr. Strike stated. "They have been the watchdogs ensuring that our financial structure remained sound and progressive. A great deal of this credit should go to Harold Banks, Comptroller, and Fred Brebner, Treasurer."

Referring to Hydro's billion-dollar expansion program, he also commended the introduction of a comprehensive system of monthly field

ABOVE LEFT—Mr. and Mrs. W. C. Lewis, and Mr. and Mrs. F. H. Plant, Ottawa, pose in front of Seabee Amphibian which took delegates on flights over Perth-Smith Falls district.

★

LEFT: Registering, from left to right, are James Miller, Peterborough; Jerry O'Connor, Kingston P.U.C.; Manford and Lillian Walker, James Page, of Renfrew Hydro Commission.



EXCELLENT location and fine weather added much to the success of the first conference sponsored by Eastern Division, A.M.E.U. Accounting and Office Administration Committee.



reports, and the placing of field accountants at major developments to facilitate on-the-spot payments of accounts, and other expenses incurred in connection with each project.

Mr. Strike was introduced by Norman Douglas, Manager-Secretary, Smiths Falls Hydro Electric Commission, who, on behalf of the local commission welcomed the delegates to "one of the garden spots of Canada." G. R. Davis, General Manager, Ottawa Hydro-Electric Commission, was banquet chairman. George A. Phillips Jr., Smiths Falls, who, along with his committee was responsible for organizing the conference, served as general chairman.

At the head table were: Mr. Phillips, J. F. Cook, Windsor; E. G. Gurnett, Belleville; O. S. Luney, Ottawa; R. J. Smith, Perth; Mr. Douglas, W. C. Lewis, Ottawa; D. J. Mc Cauley, Toronto; W. R. Mathieson, Toronto; Larry Larsen, Ottawa; Robert Brown, Belleville; Harold Banks, Toronto; M. W. Rogers, Carleton

(Continued on page 22)



ABOVE RIGHT—R. J. Smith, Manager, Perth P.U.C., right foreground, is shown with members of his staff, Misses Tena Harvey and Jean Miller, witnessing machine demonstration.

★

RIGHT—M. W. Rogers, Manager, Carleton Place P.U.C., and H. C. Smith, Toronto, were guest speakers at one of the sessions. George A. Phillips Jr., Smiths Falls (centre), was General Chairman of the interesting conference.

(Continued from page 21)

Place; Roy Reynolds, Chatham, and F. H. Plant, Ottawa.

O.M.E.A. Greetings

Mr. Plant, President of the O.M.E.A. brought greetings from that organization, while Mr. Reynolds extended a welcome on behalf of the A.M.E.U. President, Rex Martindale, who was unable to be present. Mr. Reynolds, during his remarks, pointed out the value of presenting papers with a "bedrock" approach so that those interested could learn.

During the opening business session, Mr. Phillips was chairman, while H. C. Smith of Grand & Toy Ltd. spoke on "The Economy of Business Forms," and M. W. Rogers, addressed the gathering on "Aims and Objects of the Association."

Following luncheon, Mr. Larsen was chairman when F. O. Thomas, Toronto, spoke on "Cost Reduction Through Work Simplification." This discussion was featured by an educational film. Before adjournment, a question-and-answer period was held, together with an informal discussion on problems affecting municipal accounting.



THINGS were certainly "looking up" for these delegates, front row—E. H. Banks, Comptroller Ontario Hydro; J. F. Cook, Windsor; F. P. Thomas, H.E.P.C.; Second row—E. G.Gurnett, Manager, East Ceneral Region; G. F. Davis and H. J. Thornton, Toronto, when this photo was taken



W. ROSS STRIKE, Hydro's Second Vice-Chairman, was guest speaker at the conference luncheon. G. R. Davis, General Manager, Ottawa Hydro, who presided at luncheon, and Norman J. Douglas, Manager-Secretary, Smiths Falls Hydro Commission, are on the right.



REPRESENTING four Eastern Ontario municipal utilities, this smiling feminine foursome, left to right, Helen Symons, Belleville; Rosa Spry, Stirling; Helen Evans, Picton, and Betty McKishne, Chatham was noticed discussing features of new Ditto machine.

I WISH I'D SAID THAT!

A GAME TO INCREASE YOUR VOCABULARY AND IMPROVE YOUR CONVERSATION

By Lincoln Hodges

EVER miss the point, say the wrong thing, and then blush? Here's an exercise in the art of conversation. First comes a statement that's made *to* you; then three possible replies *you* might make, only one of which proves that you get the drift. You pick the one. If you pick 19 or 20 right, you're superb; 17 or 18, just wonderful; 14 to 16, average-plus. Correct answers are listed and explained below:

1 "His reply was LACONIC."
A He's always curt.
B He's always courteous.
C He's always correct.

2 "He is an INTREPID leader."
A Cheerless.
B Peerless.
C Fearless.

3 "The general was given a PANEGYRIC."
A A great plane.
B A soft job.
C A public tribute.

4 "He's uncomfortably FORTHRIGHT."
A Too quick.
B Too blunt.
C Too healthy.

5 "It's a COMPENDIOUS work."
A Just a digest.
B Just enormous.
C Just obvious.

6 "I can't find my pet COCKEREL."
A Fish fled?
B Rooster roved?
C Dog gone?

7 "They PALAVER all the time."
A Always talking.
B Always crabbing.
C Always chumming.

8 "What a FATUOUS man!"
A Yes, he's well fed.
B Yes, he's rich.
C Yes, he's silly.

9 "I voted for the INCUMBENT."
A To re-elect him?
B To elect a new one?
C To increase taxes?

10 "Expect HISTRIONICS from her."
A She's very vindictive.
B She's very dramatic.
C She's very delicate.

11 "Our guest GORMANDIZES so."
A Such an epicure!
B Such an appetite!
C Such a parasite!

12 "These orders are UNEXCEPTIONABLE."
A Quite ordinary.
B Entirely correct.
C Can't be obeyed.

13 "He was there as a HOSTAGE."
A In a hostelry?
B On a horse farm?
C In a hostile camp?

14 "His father is a CURATE."
A In this hospital?
B In this museum?
C In this church?

15 "He's good-looking in a SOMNOLENT way."
A Sulky-looking?
B Sultry-looking?
C Sleepy-looking?

16 "That's a PERNICIOUS habit."
A Helps you?
B Hurts you?
C Creeps up on you?

17 "What's the name of the FARRIER?"
A Smith, I suppose.
B Taylor, I think.
C Swift, I surmise.

18 "Why does he ULULATE so?"
A He's a vagabond.
B He's a wolf.
C He's dizzy.

19 "Here's a VIRULENT letter."
A Carefully couched.
B Forcefully phrased.
C Poisonously penned.

20 "That's a MONOLITHIC work."
A It's a big rock.
B It's a long essay.
C It's a baffling code.

ANSWERS

1 A Laconic (luh-KAHN-ik) means brief, sparing of words—because the Laconians, in ancient Greece, were men of few words.

2 C Intrepid (in-TREP-id) means lacking trepidation, or fear. The Latin *trepidare* means to tremble.

3 C A panegyric (PAN-uh-JYR-ick) is a formal expression of high praise, as in an oration.

4 B Forthright (FORTH-right) means direct or to the point; outspoken.

5 A Compendious (kum-PEN-de-us) means summarized, or abridged as a digest is. It is taken from a Latin word for abridged.

6 B A cockerel (COCK-er-ul) is a young rooster.

7 A To palaver (puh-LAV-er) is to hold a conference or parley; to talk at length, especially in a flattering way. It comes from the same Latin word as parable.

8 C Fatuous (FAT-yoo-us) means foolish, silly, stupid.

9 A An incumbent (in-KUM-bunt) is an office holder; hence to vote for the incumbent is to vote for his re-election. As an adjective, incumbent means obligatory.

10 B Histrionics (hiss-tre-ON-ix) are theatrical actions—in Latin, *histrio* means an actor.

11 B To gormandize (GOR-mun-dize) is to eat greedily.

12 B Something is unexceptionable (un-ik-SEP- shun-uh-b'l) when it is entirely correct, so that one cannot take exception to it.

13 C A hostage (HOS-tij) is one kept as a pledge for the performance of some act by an enemy, the hostage being punished if the enemy fails to perform the act.

14 C A curate (CURE-it) is a clergyman, an assistant to the rector of a parish.

15 C Somnolent (SAHM-nuh-lunt) means drowsy, or sleepy; it comes from the Latin *somnus,* sleep.

16 B Pernicious (per-NISH-us) means extremely hurtful; deadly.

17 A A farrier (FAR-ee-er. with the A as in add) is a blacksmith who shoes horses

18 B To ululate (YOO-yuh-late or UL-yuh-late) is to howl like a wolf. Like many other of our words. it imitates the sound it describes.

19 C Virulent (VIR-yuh-lent or VIR-uh-lent) means venomous, deadly. It stems from *virus,* a Latin word that has passed unaltered into English.

20 A Monolithic (MON-uh-LITH-ik) means consisting of a single large block of stone in the form of a statue or pillar; hence, also, solidly uniform.

—REPRINTED FROM COSMOPOLITAN



Progressive Municipality

Watford Citizens Mark Opening of P.U.C. Building



BACK in the early 90's an energetic and progressive citizen of Watford, Ontario, Dr. John McLeay, installed a carbide gas lighting generator to serve a group of business places in that community. A few years later he converted it to generate electricity and that was Watford's first introduction to electrical power.

These interesting facts were recalled recently when that progressive municipality

☆

RECEPTION and dinner preceded the official opening ceremonies during which Carl A. Class, centre, retiring collector for Watford P.U.C. was presented with a leather wallet and gift of money by Chairman D. W. Gribben, right. W. L. Millar, of Watford, is on the left.

marked the official opening of its new public utilities building—another important milestone in Watford's long association with the province-wide Hydro system.

Regional Manager Cuts Ribbon

Cutting the traditional red ribbon was Russell M. Laurie, Manager, Western Region. A dinner and reception held in the Legion Memorial Hall, prior to the opening ceremonies, was attended by local citizens and officials, as well as Ontario Hydro representatives.

Mr. Laurie, addressing the dinner guests, outlined Hydro's vast power development program inaugurated by the Commission in 1945. Mr. Laurie made special reference to the latest power project—the Sir Adam Beck-Niagara G. S. No. 2 at Niagara Falls. Referring to Hydro growth in Watford since its inception 35 years ago, the speaker predicted even greater use of electrical energy in the years ahead.

Mr. Laurie was introduced by D. W. Gribben, Chairman, Watford P.U.C., George B. Fuller, Manager and Secretary, extended thanks to Mr. Laurie. Commissioner C. C. Harper presided as Master of Ceremonies with Reeve Roy Cook extending greetings on behalf of Watford's citizens. The dinner was the occasion, as well, for the presentation to Carl A. Class, Accounts Collection Department, of a leather wallet and gift of money upon his retirement after 17 years' service.

History Reviewed

Reviewing the history of electrical power in Watford, Mr. Harper also re

(Continued on page 31)



DEMONSTRATING electric stove on display in the sales room of the Watford Commission's new building, Mrs. W. K. Walker, a member of the staff, holds the attention of Mrs. W. J. McLaren, Mrs. R. G. Woods, Mrs. D. W. Gribben and Miss Dorothy Luckham who attended opening.

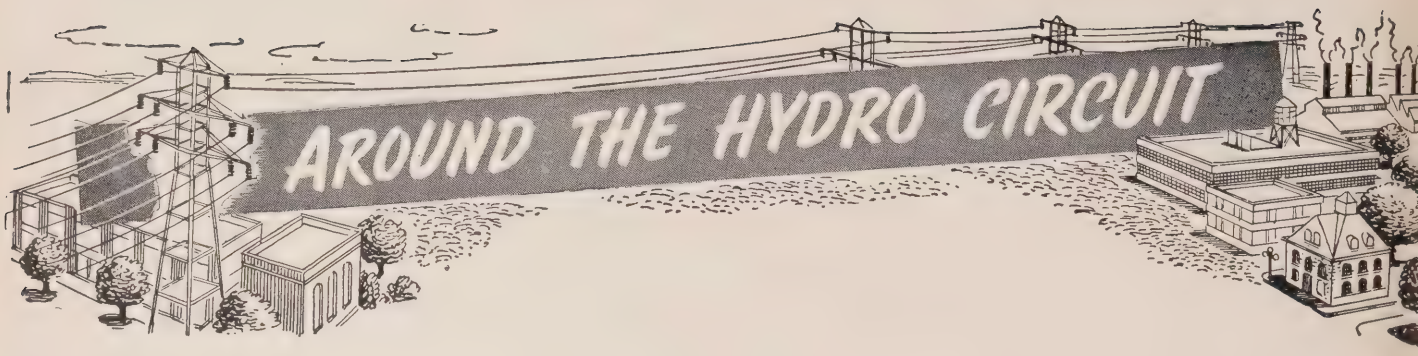




CUTTING the traditional ribbon to declare the building officially open was R. M. Laurie, Manager, Western Region, Ontario Hydro. Ceremony was witnessed by Commissioner C. C. Harper, Chairman D. W. Gribben, left, W. H. Shrapnel, first secretary of Watford Comm.; Reeve R. B. Cook, and Mgr. G. B. Fuller.

★

INSPECTING the new building after the opening ceremony were Mrs. W. J. McLaren, Mrs. H. A. MacKenzie, Mrs. R. G. Woods, Miss Helen Minielly, Mrs. R. Morningstar, Mrs. P. R. Urie, Mrs. G. B. Fuller, and Stan Ellerker, Forest.



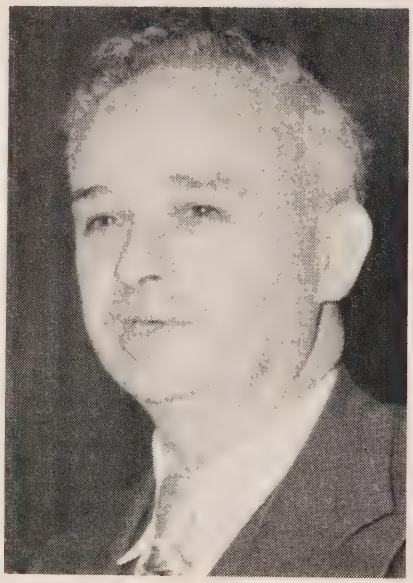
D. P. Cliff Named Secretary-Treasurer

APPOINTMENT of David P. Cliff, of Dundas, as Secretary-Treasurer of the Ontario Municipal Electric Association has been announced by President Frank H. Plant and members of the executive.

Immediate Past President of the O.M.E.A., and a member of the Ontario Hydro-Electric Advisory Council, Mr. Cliff assumed his new duties July 31 this year. He succeeds George F. Hutcheson, of Huntsville, who has held the position since 1950.

The new Secretary-Treasurer, a member of a pioneer Dundas family, has played an active role in the affairs of his community for several years. Elected to the Dundas Town Council in 1937 he was successively Deputy-Reeve and Reeve until 1945 when he was elected Mayor of that municipality. In 1943 he was Warden of Wentworth County. Since 1945 he has been a member of the Dundas P.U.C. as Commissioner and Chairman, being elected President of the O.M.E.A. in 1950. He served for two successive terms in this capacity. In 1951 he was appointed a member of the Ontario Hydro-Electric Advisory Council.

Prominent in other community activities, he is also an executive member of the Wentworth Children's Aid Society, a Past President of the Dundas Historical Society, and is actively identified with the work of the local Rotary Club and Board of Trade. Sales Manager of the Dominion Lightning Rod Company, which was established at Dundas by his grandfather in the latter part of the last century, Mr. Cliff is the third generation of his family to engage in the business. A member of the fourth generation of the Cliff family is now in training. Married, Mr. Cliff has two sons and two daughters.



D. P. CLIFF

ADDITIONAL POWER

HYDRO services in the Village of St. Clair Beach have been improved by the recent installation of new feeder lines from a new substation, Thomas A. Cada, Chairman of the St. Clair Beach Hydro-Electric Commission reported recently.

Due to the availability of additional power, it is expected that interruptions in the service will be rare, Mr. Cada stated.

IMPROVE SYSTEM

WINCHESTER village council has completed arrangements with Ontario Hydro for improvements to the local distribution system. One third of the work is expected to be completed within the year, and the remainder spread over a five-year period.

Owen Sound Man Dies

Following a heart attack at Port Elgin, Harold Lyons, 44, employee of the Owen Sound Public Utilities Commission died recently in the Owen Sound General and Marine Hospital.

Born in Deseronto, Mr. Lyons moved to Owen Sound more than 40 years ago, where he received his education and served his apprenticeship as an electrician. He worked with the Bell Telephone Company of Canada before joining the staff of the Owen Sound Commission 15 years ago.

He was a member of Division Street United Church and was active in the founding of the Northcliffe Mission. He was a member of the Independent Order of Oddfellows.

He is survived in the immediate family by his wife, the former Wilda McIvor, and four children, Wayne, Katherine, Malcolm and Colleen. Also surviving are his mother and sister, Phoebe, in Owen Sound and four brothers, John and Robert of Owen Sound; William of Windsor and Andrew of Port Colborne.

HIGH-VOLTAGE FEEDERS

NECESSITY of establishing a policy for construction of high voltage feeders to serve new industries in the City of Sarnia is becoming apparent, according to D. P. Herring, Chairman of Sarnia Hydro-Electric Commission. This matter was discussed recently by the Sarnia Commission.

One of the newcomers is Cabot Carbon of Canada Limited, manufacturer of carbon black for the rubber industry. They will take delivery of permanent power at 26,400 volts.

Ottawa Hydro Plans Stabilization Fund

TO protect its customers against possible sharp increases in rates, Ottawa Hydro-Electric Commission plans establishment of a $2,000,000 Power Stabilization Fund, Chairman Frank Plant announced recently.

Mr. Plant said the new fund would, it was anticipated, be started no later than 1953, with initial annual contributions of $100,000 from the local commission's operating surplus. Gradually the payments could be stepped up to $200,000 per annum to reach an anticipated total of $2,000,000 by 1968.

He pointed out that in 1968, power contracts which Ottawa Hydro has with Gatineau Power Company will expire. At that time the Commission expected that a renewal of the contract would involve a higher cost of power, which, in the ordinary course of events, would have to be passed on to customers of the commission.

By building up, in the interim, the Power Stabilization Fund, the Ottawa Commission hopes to preserve the present low rates, Mr. Plant stated. He said it is anticipated that 1952 revenue will reach $5,600,000 compared to $5,232,929 for 1951. Additional expenses this year, however, would include $240,000 for additional power purchased, $90,000 for salary increases, $27,000 for maintenance of substations and $11,000 additional in the meter department.

"If we can continue at the present trend, I believe we will achieve a year-end surplus equal to last year's $909,337 figure."

Mr. Plant said the plan to change over Ottawa Hydro's 2,300 volt installations to the 4,000-volt system formerly used by Ottawa Light, Heat and Power was progressing satisfactorily. Approximately $100,000 was being spent on this work annually until 1955 when the undertaking was scheduled for completion.

"One new substation each year will have to be built for a number of years to meet a need for increased voltage chiefly because of mounting commercial demands," Mr. Plant predicted.

He gave full credit for the Ottawa Commission's satisfactory position to his colleagues, Mayor Charlotte Whitton, and Stanley Lewis, and to General Manager G. R. Davis, Planning and Distribution Superintendent Fred York, and Secretary Treasurer Cecil Lewis.

Area "D" Changeover Completed

CHANGEOVER to 60-cycle frequency has been virtually completed in Standardization Area "D"—the Stratford-St. Marys-Seaforth section of Southern Ontario.

Although the last "cutover" to the higher frequency has been made, the Commission's Area Office in Stratford is remaining open until further notice with a reduced staff on duty to deal with any matters affecting standardization. The clock and fan depot at the same address is also remaining open.

Completion of Area "D" has reduced the size of the "25-cycle island" by 1,386 square miles. Together with other completed Areas "A," "B," "C" and "M," 4,809 square miles of the Southern Ontario System, formerly served with 25-cycle power, are now supplied at the higher frequency.

Some 82,408 frequency-sensitive items owned by 20,141 power, commercial, rural and domestic customers were changed over in Area "D".

Of these items 63,394 belonged to 17,383 domestic customers. Included were appliances in everyday use such as 15,029 washing machines, 9,594 refrigerators, 3,996 record players, 1,583 oil furnaces, 9,164 clocks and 3,766 fans.

In Stratford, the saturation of washing machines was particularly high, as in some sections of the city it was found that 95 per cent of domestic customers owned this type of appliance, as compared with the general average of 90.5 per cent.

Classified Ads

FOR SALE

THREE Outdoor Street Light Constant Current Transformers: C.G.E.—Type RO—25 cycle—Primary volts 2300 6.6 Amperes—Form S—20 Kw. Serial #111085; Serial #110055; Serial #132528. Four Indoor Street Light Constant Current Transformers: C.G.E.—Type RB—Form A —16 Kw.—6.6 Amperes, 25 cycle—Primary volts 2200 Serial #524232; Serial #524241; Serial #524737; Serial #524738. — Apply A. B. Manson, General Manager, Public Utilities Comm., 7 Ontario St., Stratford.



CORNERSTONE for an ultra-modern new building for Scarboro Public Utilities Commission was laid recently by W. Ross Strike, Ontario Hydro's Second Vice-Chairman, second from left. Participating in the ceremony were Reeve O. E. Crockford, left, Chairman John Brown and Commissioner A. O. Leslie. New building will bring under one roof all services of the commission.

Maybe You'll Laugh Too!



Sue: "I wrote a confession story once."

Jean: "Did they publish it?"

Sue: "No, but the editor came all the way here to see me."

* * *

Boss: "I suppose you wish I were dead so you could spit on my grave?"

Employee: "Not me. I hate to stand in line."

* * *

"Won't you join me in a cup of coffee?"

"You get in first."

* * *

"Was your husband insured?"

"No, he was a total loss."

* * *

Professor, to early class: "Order please."

A drowsy voice from the rear of the room: "Two more beers."

* * *

"And what happened after you stooped to pick up your companion's glove in the restaurant?"

"Before I could straighten up the waiter had thrown a table cloth over me and seated five people."

* * *

Coach (to football giant): "You're outa condition. Whadya been doin', studyin?"

* * *

Duffer: "Caddie, this is a terrible course."

Caddie: "Sir, we left the golf course an hour ago."

* * *

"Do you know the difference between a popular girl and an unpopular one?"

"Yes and no."

* * *

Son: "What's puppy love?"

Father: "Just a prelude to a dog's life."

She: "What's wrong with the straight and narrow path?"

He: "There's no place to park."

* * *

Bostonian (showing Englishman Bunker Hill monument): "This is where our great General Warren fell, you know."

Englishman: "Nasty drop. Killed him, of course?"

* * *

One completely inebriated gent (to the other, as they were driving along the highway): "Better turn out for that bridge thash coming towards ush."

The other: "Whaddya tellin' me for? Ain't you drivin'?"

* * *

Man (buying parrot at auction) "I suppose the bird talks?"

Auctioneer: "Talk? He's been bidding against you the past half hour."

* * *

Doubtful woman (examining toy): "Isn't this rather complicated for a small child?""

Shop assistant: "It's an educational toy, ma'am, designed to adjust a child to life in the world of today. Any way he puts it together is wrong."

* * *

Golfer (to partner): "Look at that girl dressed like a man, it's disgraceful. What are her parents thinking of?"

Partner: "That girl, sir, happens to be my daughter."

Golfer: "Oh, I beg your pardon, I didn't know you were her father."

Partner: "I'm not, I'm her mother."

* * *

Prof. (strolling along beach, to young boy gazing wistfully across waves): "Surveying the vast Atlantic, are you?"

Boy: "Naw, jist lookin' at the ocean."

* * *

Dumb passenger: "Do all ships have rudders?"

Captain: "Yes. It's a stern necessity."

* * *



—COSMOPOLITAN.

She: "I've lost my job. Everything I do seems to be wrong."

He: "What are you doing tonight?"

* * *

Mother (to little boy, returning from party): "Did you refuse the second piece of cake as I told you?"

Junior: "Sure, Ma just like Dad does. I said, 'Take the damn stuff out of my sight!' "

* * *

"Have I told you this joke before?"

"Is it funny?"

"Yes."

"Then you haven't."

* * *

Luke says he always drives through an intersection real fast to get out of the way of reckless drivers.

MUNICIPAL CONFERENCE

(Continued from page 8)

ing the next day and one-half, a spirited discussion of the reports of the three sub-committees which are being printed and distributed to members of the association.

First on the agenda was a discussion of the historical background transmission by R. E. Jones, Distribution Engineer, Electrical Engineering Department, Ontario Hydro, following the report of the Underground Section of the main committee by Chairman Dennis P. Herring, who is also Chairman of Sarnia Hydro-Electric Commission.

Following the noon luncheon at which A.M.E.U. President Rex Martindale presided, A. W. Murdock, recently-appointed Rate Study Engineer, briefly discussed H.E.P.C. rate structures.

At the afternoon sessions A. L. Furanna, Chief Engineer, London P.U.C. and Chairman of the Distribution and Station Design Section, reported for his committee followed by supplementary papers on "Distribution System Planning for Service, Security and Voltage Regulations," by Aaron Gusen, Distribution Engineer, and "Substations" by H. P. Cadario, Senior Projects Engineer, Stations, Electrical Engineering Department, H.E.P.C.

During the evening banquet, guest speakers were A. W. Manby, Assistant General Manager — Administration, and William M. Hogg, Assistant Project Engineer, Sir Adam Beck No. 2 Development, Ontario Hydro. As part of his address, Mr. Hogg showed motion pictures of the new Niagara development.

The concluding session was devoted exclusively to a progress report on the work of the committee on Overhead Distribution and Street Lighting standards by Chairman G. L. Lillie, Toronto Hydro-Electric System, followed by supplementary papers by S. C. Webster, Tillsonburg, and E. J. Woelfle, Toronto Hydro.

RECORD CONSUMPTION

POWER consumption at Stratford established a new peak during June this year, according to figures released recently by Stratford Public Utility Commission. On June 10, at 11.42 a.m. the city's peak load reached 10,558.4 kilowatts compared with the maximum peak of 9,189 kilowatts recorded on June 13, 1951. Total kilowatthours used in June this year was 3,866,350. In June, 1951, the total was 3,743,200 kwhrs.



PRESENTATION to R. J. Smith, Perth, in recognition of his long service in the waterworks field was made by J. Clark Keith, left, General Manager of Windsor Utilities Commission on behalf of Canadian Section of the American Waterworks Association. Mr. Smith is senior member.

R. J. Smith Honored

LONG and distinguished service of two Ontario men in the field of municipal water works development and supervision was recognized recently by the Canadian section of the American Water Works Association.

At the annual convention in Montreal, R. J. Smith, Manager and Secretary Treasurer of the Perth Public Utilities Commission and R. H. Martindale, Manager-Secretary of the Sudbury Hydro-Electric Commission, and 1952 President of the A.M.E.U., were presented with engraved silver trays by J. Clark Keith, General Manager of Windsor Utilities Commission.

Senior Member

Mr. Smith is the senior member of the Canadian Section of the American Water Works Association having joined the parent association in New York, 1911. The Canadian Section was formed in 1920.

His record of public service in Perth is equally unique as he started work on August 4, 1897, on the installation of water works for that town under J. O'C. Mignault, C. E. On completion of the waterworks system, Mr. Smith was made manager and has continued in that position for a period of almost 55 years.

In 1898, the water company purchased the Tay Electric Company and changed their name to the Canadian Electric and Water Power Company Limited. The company built two small plants on the Tay River, a short distance upstream from Perth, and generated two-phase, 133-cycle electric power, transmitting at 2,300 volts to the town to operate the pumps of the water system and for general lighting purposes.

The municipa ty purchased the plants of the company in 1918 and changed the system to three-phase, 60-cycles so that it could operate in parallel with the then infant Ontario Hydro system.

Born in Perth, 1877, Mr. Smith was educated at Perth Public School and Collegiate Institute, and also Ontario Business College, Belleville.

A member of the Perth Board of Education for 17 years, he was for five years Secretary of the Perth Library Board, and Founder and Secretary-Treasurer of the Perth Museum, Incorporated.

He is a Past President of the A.M.E.U., and a charter member of the Perth Rotary Club.

HYDRO *Home Forum*

by Edithemma Dighton
Hydro Home Economist



Visitors to the Canadian National Exhibition in Toronto this year will find that the former Railways Building has had a "face-lifting" and has been re-named the Hydro Building.

* * *

Of special interest to women will be the display featuring two farm kitchens—one showing what a farm kitchen looked like before Hydro "came their way" and also Mrs. Homemaker of '52 in a step-saving electric kitchen.

* * *

The modern electric kitchen makes every job easier! This is particularly true when location of electric equipment is planned with an eye to saving steps, with the refrigerator nearest the entrance door, and then the electric range. With a continuous counter space there'll be assembly line preparation of food and clean-up jobs.

* * *

Eight essentials of a good kitchen are adequate working space, storage space, access service, filing system, serving space, comfortable flooring, easy-to-clean surfaces and good lighting.

* * *

For easy upkeep choose (1) cove moldings for crevices between floor and wall, as well as for counter tops and wall, (2) splashbacks above work counters and sinks, (3) hardwood for cutting, (4) lip at counter edge, toe space under base cabinets, (5) plain trim and doors and (6) a mottled design or medium color for floor and counters.

* * *

The Electric Service League of Ontario offers free advice on adequate wiring for a kitchen. Install additional outlets so that further equipment and appliances can be purchased later. The average kitchen requires No. 10 wire and 4 circuits to outlets. Then there are recessed outlets for clocks, indicator lights for ironing outlet, etc.

* * *

These are fragrant days in the kitchen when the aroma of relishes and preserves permeates the air.

* * *

You will be assured of crunchy crisp pickles if you use (1) pure cider vinegar, (2) clear, soft water and measured, non-iodized salt.

* * *

Fresh Plum pie is a harvest-time specialty. We like to use the Damson plums for pie because the fruit will "jel" when the pie begins to cool. Halve 24 plums; remove pits but not the skin; place cut side down in a pie-plate lined with pastry dough. Beat 3 eggs, add ¾ cup cream and 2 cups fine sugar; pour this mixture over the plums and bake in electric oven of 450 degs. for 10 minutes then reduce oven control to 350 for 30 mins.

* * *

Elderberry Pie, two crusts of pastry, will please your family. To prevent sogginess mix two tablespoons of minute tapioca and ½ cup sugar for one eight-inch pie. Before it goes into the oven, wet strips of butter wrapper (2″ wide) and stick to the edge of pie plate. This prevents boilovers.

* * *

A good substitute for whipped cream is mashed bananas folded into stiffly-beaten egg whites.

* * *

To prevent baked apples or stuffed peppers from falling apart, bake in greased muffin tins.

* * *

A juicy fruit pudding rates the highest compliments. Prevent loss of juice by moistening the edges of the dough with cold water before rolling it up like a jelly roll; seal edges well.

* * *

A mix masher! Mix the ingredients for a meat loaf with a potato masher if you wish to develop savory flavors.

* * *

Remember! turn down the heat and save the meat.

WATERMELON PICKLE

ALLOWING for three cups of white rind, cut off the outer or green rind and the red portion of a section of fresh watermelon. Dice the white rind and cover with salt water (1 cup salt to 4 quarts of water). Soak rind in this mixture for 12 hours. Then drain well, cover with boiling water and boil for about 10 minutes until rind is half-tender. Drain again.

Make a spice bag consisting of:

3 sticks cinnamon (1 inch long)
8 whole cloves

Place bag in mixture consisting of:

1 cup water
1 cup vinegar
2 cups sugar

Boil together until they form a thick syrup. Add the three cups of rind and bring to boiling point. Remove spice bag. Place the rind in jars and cover with boiling vinegar mixture and seal the jars.

EXAMPLE OF SUCCESS

(Continued from page 12)

are located on the second floor reached by a stairway leading directly from the main lobby. An attractive reception area, fitted with upholstered chairs, and featuring a tasteful color scheme, greets the visitor to this floor where a wide hallway provides admittance to the glass panelled offices. The board room is situated on this floor.

Important Climax

Marking an important climax in the 40 year history of Hydro in St. Thomas, the new building is the fourth home of that city's public utilities commission. First located in the city hall, the accounting and administration offices were moved to the commission's sub-station on St. Catherine St. where they remained until 1930 when a three-storey building on Talbot St. was acquired. These premises were enlarged several years ago when all city services were merged and the former St. Thomas Hydro-Electric Commission became a public utilities commission.

Ever-increasing postwar requirements resulted in the provision of additional service space and ultimately the inauguration and completion of this impressive testimonial to a progressive municipality.

PROGRESSIVE MUNICIPALITY

(Continued from page 25)

called that about the turn of the century, Campbell McLeay established a steam-operated plant at Saunder's Sawmill on Gold Street. This small station provided direct current for carbon lights in a few houses from dusk till midnight, as well as for some stores on Saturday nights, and big arc-lamps at street intersections.

"Watford voted for Hydro early in 1917 and after a busy summer wiring and line-building, Hydro was first turned on in September," he continued, "Customers can still remember the high rates commercial users paid—15 cents per kilowatthour, domestic, 7½ cents."

Today, the commercial customer pays 2.05 cents per kwhr., and the domestic consumer 1.384 cents. For many years, Hydro's power cost to the town was $85 per horsepower. It has shown a steady decrease since that time to the present rate of $31.60 per horsepower with a parallel increase in the peak load to the present figure of 880 h.p., Mr. Harper pointed out. Brief addresses were given also by D. W. Gribben and Reeve R. B. Cook.



LAST POLE—Target for posting of every conceivable type of notice, the last wooden pole on Front St., Campbellford's main thoroughfare, was removed recently by a line crew of the local public utilities commission. This pole was one of several erected 25 years ago to carry the town's main feeder line from municipal power house nearly two miles from the outskirts.

Tour of Inspection

After Mr. Laurie had officially declared the new building open, the public was invited to make a tour of inspection. Designed to meet the requirements for many years to come, the compact structure incorporates a spacious lobby and modern business office. Both are tastefully decorated and equipped with the latest lighting fixtures. In addition, the building also provides ample space for a beautifully-panelled boardroom, manager's office, and workshop.

Open New "Hydro Building" at the C. N. E.

THIS is "Canada's Year" at the Canadian National Exhibition in Toronto. Fittingly enough, Ontario Hydro and the Toronto Hydro-Electric System are, for the first time, occupying an entire building at the world-famous fair where colorful displays dramatize the great role Hydro is playing in the lives of Ontario citizens.

The new "Hydro Building" was officially opened on August 21 by Hon. Dana Porter, Q.C., Ontario's Attorney-General, in the presence of Ontario Hydro Chairman Robert H. Saunders, First Vice-Chairman Hon. George H. Challies and Vice-Chairman Bert Merson, Toronto Hydro; Cabinet ministers and members of the Ontario Legislature; representatives of the C.N.E., including President J. A. Northey who also extended greetings; Toronto civic officials, and municipal Hydro officers.

Located northeast of the familiar C.N.E. Fountain, the new building is reported to be attracting large numbers of "Ex" visitors as this issue goes to press. A full report, complete with photographs, on Hydro's unique display will be published in the September edition of Ontario Hydro News.





Don't touch that Fallen Wire!

Despite all of Hydro's careful precautions, there are times when storms or unavoidable accidents cause electric wires to break down. When that happens, *don't touch that fallen wire!* Your very life may be at stake.

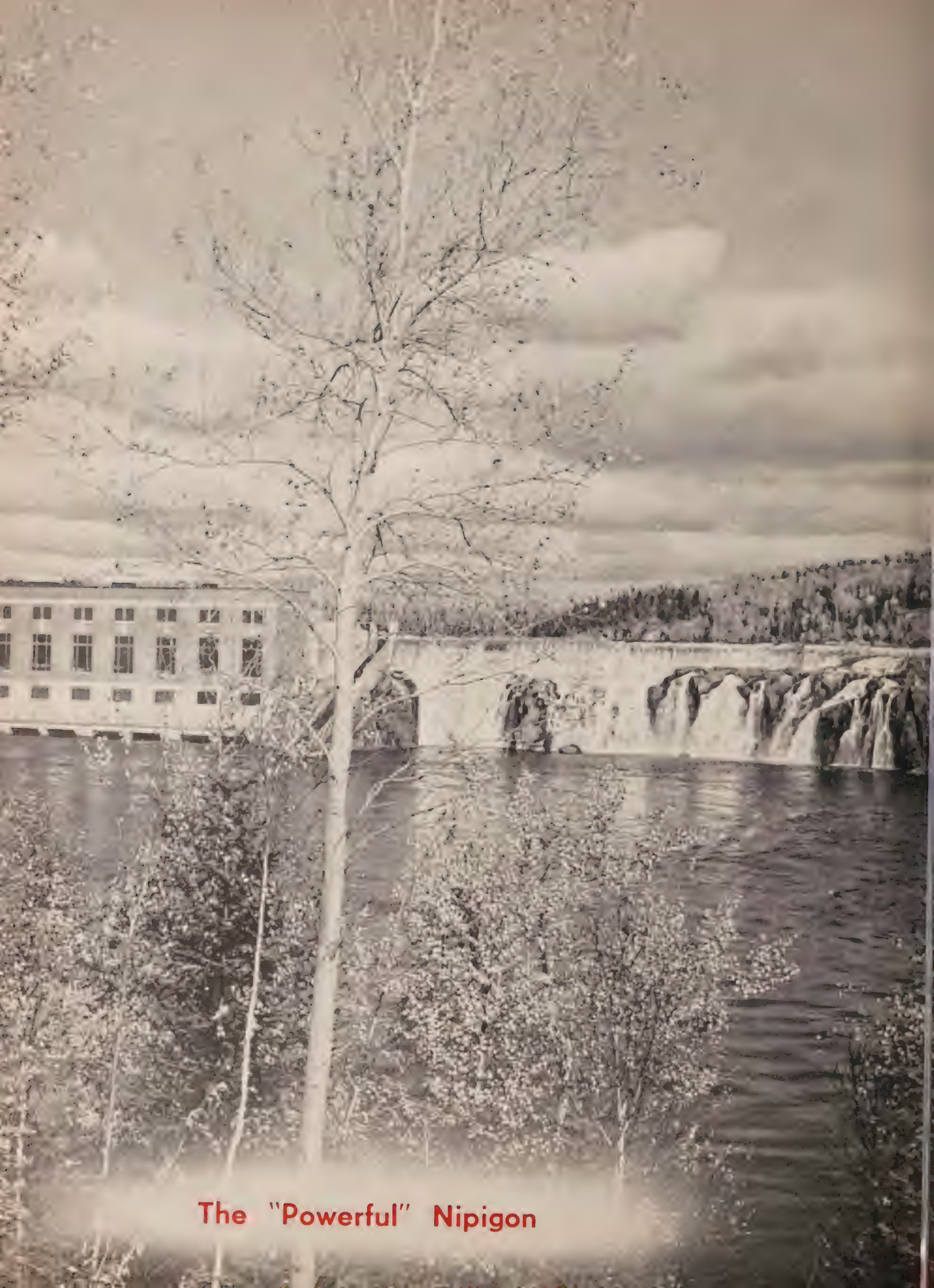
Keep curious children—and adults—away at all costs. Shock, severe burns and worse can result from touching such a wire.

If you discover an electric wire on the ground or hanging dangerously low, remember these three things:

1. Don't, under any circumstances, touch the wire.
2. Stay on guard and keep *everyone* away until help arrives.
3. Have someone notify the police and the nearest Hydro office *at once.*

Nothing has been overlooked to give you the best possible electrical service. But, should trouble occur, your co-operation in being careful and warning others may prevent injury or even loss of life.

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

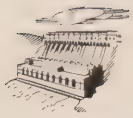


The "Powerful" Nipigon



ONTARIO HYDRO News

VOL. 39 SEPTEMBER, 1952 NUMBER 9



ONTARIO HYDRO News



SEPTEMBER, 1952

VOLUME 39 NUMBER 9

Published by

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 University Avenue, Toronto

A Long, Far Cry

OVER 40 years ago, Adam Beck, "Father of Hydro" sent the first "Circus" into the rural sections of Ontario to demonstrate the efficacy of electricity in performing such manual tasks as churning, washing, sawing wood, milking cows and grinding grain.

The "Circus" by modern standards, was a somewhat crude affair. Those associated with this project can recall that it was greeted with skepticism and, at times, derision by some farmers. But Sir Adam's faith in that brave little venture was just as unquenchable and tenacious as his espousal of power under public ownership in Ontario.

That his faith in the usefulness of electricity to the farmer has been fully vindicated there is no doubt whatever. Electricity is no longer a luxury on the modern farm — it is an absolute necessity! Today there are over 200 farm uses of electricity.

In 1911 when Sir Adam began his "barnstorming" scheme, only those farms within shouting distance of a municipality, willing to extend its lines beyond the town limits, could obtain service. In 1921 the Ontario Government passed its Rural Hydro-Electric Distribution Act, providing for payment of up to 50 percent of the initial capital cost of constructing rural lines. This gave rural electrification fresh impetus.

Extension of rural power service continued at a gradual and orderly pace for the next decade and more until World War II when construction was curtailed owing to a shortage of materials. By October 31, 1945, 21,569 miles of rural distribution lines were in service. But, the end of war brought an urgent demand for electrical service from rural areas as a relief from the shortage of farm labor. In 1946, Ontario Hydro inaugurated its Five-Year Rural Electrification Program.

This program has had a profound effect on the economy of Ontario's rural sections. Today, over three out of four farms are linked with Hydro's great rural network, an achievement which even Sir Adam Beck in all his boundless enthusiasm, we feel, would not have believed possible! By July this year, the Commission had approximately 39,233 miles of line in service, an increase of some 82 percent over the 1945 figure. Customers increased by more than 100 percent during this same period, a total of 329,391 being served at the end of July, 1952.

Hydro Chairman Robert H. Saunders recently announced that the Commission expects the backlog of construction will be completed by 1953. Service will be given, or, at least, will be available to all farms within reasonable, economic distances from existing rural lines.

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PHOTO CREDITS

TAPPING molten calcium carbide from the continent's most modern electric furnace of its type is a delicate operation and a warm one, too, as J. Burt Helling, Hydro Staff photographer, readily discovered when he took the photo reproduced on this month's front cover. The new furnace, located in the Niagara Falls plant of North American Cyanamid Limited, was recently placed in operation. In cool contrast is Mr. Helling's photo on the back cover which depicts Lower Notch Canyon on the Montreal River in Northern Ontario. Photo on the opposite page is the result of the combined efforts of Hydro Photographers Bob Armstrong and Bud Barnett.

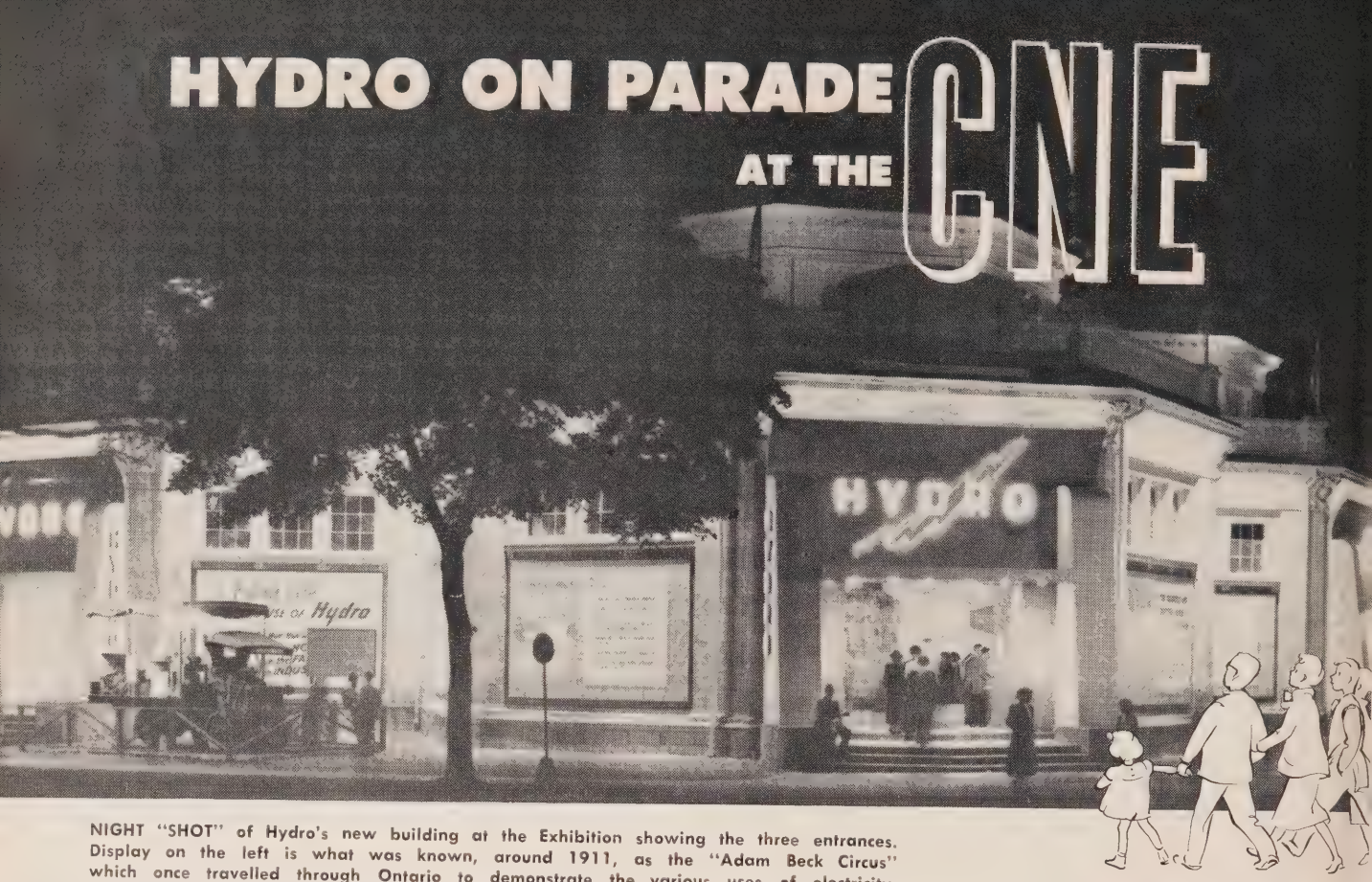
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NIAGARA TUNNEL

Some 300 feet below earth surface, crews of workmen are driving the first of two 5½-mile tunnels as Ontario Hydro proceeds with construction of its 1,200,000-horsepower Sir Adam Beck No. 2 development. This view shows a section of the huge tunnel which has a rough diameter of 51 feet. Completed, it will have a circular lining of concrete three feet thick. Water diverted from the upper Niagara River will be conveyed under the City of Niagara Falls through the tunnels, emptying into a 2¼-mile canal on the other side of the city and thence to the forebay of the new station.

HYDRO ON PARADE AT THE C.N.E.



NIGHT "SHOT" of Hydro's new building at the Exhibition showing the three entrances. Display on the left is what was known, around 1911, as the "Adam Beck Circus" which once travelled through Ontario to demonstrate the various uses of electricity.

IT was in 1882, according to the records, that a fascinating innovation was introduced at what is known today as the Canadian National Exhibition.

With electric lights, W. M. Robert recalls, in his book "Trail of the Canadian National Exhibition," the gates were kept open till 10 p.m., "the buildings and grounds being lit by such a glare as had not been seen in Toronto up to that time."

Until then, electric lights were just a novelty. Today, Hydro-generated electricity is the very heart of this great fair — as much a part of this "show-window of the nation" as it is the everyday lives of the two million and more patrons who filed through the turnstiles for the 1952 show.

"Canada's Year" at the C.N.E. was unique in many respects. For example, the world-renowned fair was opened by the Dominion's first native-born Governor-General, Rt. Hon. Vincent Massey, M.A., D.C.L., Ll.D.

With the entire exhibition geared to illustrate the national theme, Ontario Hydro and the Toronto Hydro-Electric System for the first time occupied an entire building at the C.N.E., emphasizing their stature as respected and ever-growing Canadian public utilities.

Brilliant Setting

Formerly, the Railways Building, the tri-circular structure, resplendent and gleaming with fresh paint, brilliant-hued signs, and flashing lights, provided an exciting yet appropriate setting for what was described as "some of the most attractive displays in the exhibition."

Officially opened by Ontario's Attorney-General, Hon. Dana Porter, the new Hydro building drew the admiring plaudits of both the press and the public. Here is how a representative of the Toronto Globe and Mail paraphrased it:

"The St. Lawrence Seaway, a modern farm, the City of Niagara Falls, and a waterfall, are all under one roof for the next two weeks, but, it took a combination of Ontario Hydro ingenuity and

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CONGRATULATIONS were extended to Hydro at the formal opening of its new building by C.N.E. President J. A. Northey (at the microphone). Group shown includes Chairman Robert H. Saunders, Hon. Dana H. Porter, Q.C., Ontario Attorney-General, who officiated; Mr. Northey, Bert Merson, Vice-Chairman, Toronto Hydro; Robert Macaulay, M.L.A., Toronto - Riverdale, and Controller David Balfour of Toronto.



LARGE, animated replica of Canadian Horseshoe Falls, dramatized by colored lights, playing on the water, was one of the main points of interest for hundreds who inspected new building.

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showmanship and the lure of the C.N.E. to bring them together."

But, that was only a summary of Hydro's "display shelf!"

Hundreds View Model

The St. Lawrence Seaway mentioned by the writer, was, in fact, a gigantic model of the much-publicised St. Lawrence Seaway and Power Project. On a grand tour of the province since last spring, the model provoked as much admiring comment and interest among

(Continued on page 5)



ATTRACTING the farmer's eye was a model of an electric farm, equipped with 28 switches, showing Hydro as a magic "hired man."

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IN KEEPING with the theme of "Canada's Year," the 1952 C.N.E. was officially opened on August 22 by Canada's first native-born Governor-General, Rt. Hon. Vincent Massey.

HYDRO ON PARADE





GOVERNOR-GENERAL MASSEY listens with rapt attention as Chairman Saunders explains features of the large St. Lawrence Seaway and Power Project model, one of Hydro's major exhibits. C.N.E. President J. A. Northey, right, William Harris, 2nd Vice-President, and other Directors conducted Viceregal party on a tour of Exhibition buildings after opening ceremonies.



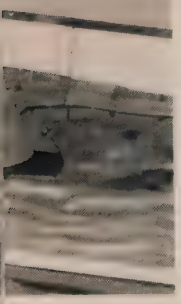
THESE high-ranking railway representatives, A. J. Lomas, Vice-President, Central Region, C.N.R., and G. N. Curley, General Manager, Eastern Region, C.P.R., were among the guests at the formal opening of the newly-designated Hydro Building at the Exhibition, formerly known as the Railways Building.



HOT WEATHER prevailed the day Hydro played host to Directors of Atomic Energy of Canada Ltd., including Dr. W. B. Lewis, Dr. C. J. MacKenzie, and Dr. D. Keys, who, with Dr. Richard L. Hearn, Hydro's General Manager and Chief Engineer, as well as a Director of Canada's atomic research firm, and Chairman Robert H. Saunders, are examining the model of Hydro's Sir Adam Beck No. 2 project.



ANOTHER prominent Canadian visitor was Hon. Brooke Claxton, Minister of Defence, who with W. J. Stewart, MLA, Toronto-Parkdale, and Chairman Saunders are shown witnessing a demonstration of "Operation Thumper," a novel electrical guest signal used by a totally deaf housewife, one of six graphic examples of unusual items encountered by Ontario Hydro technicians in the changeover project.









DESCRIBING Hydro's research exhibit, one newsman reported that research workers "played some of their scientific tricks." Here two attendants demonstrate use of famed "Soniscope."

C.N.E. visitors as it has among hundreds of citizens in the numerous Ontario cities and towns where it has been on display in recent weeks.

Emphasizing the urgency of the project — either as an international or national development, — the push of a button enabled attendants to show the proposed all-Canadian route of the seaway as well as the joint Canadian-United States plan. Throngs of visitors also manifested their deep concern with the power potentialities of the project which would produce 2,200,000 horsepower in the International Rapids Section, half of which will be used by the people of Ontario.

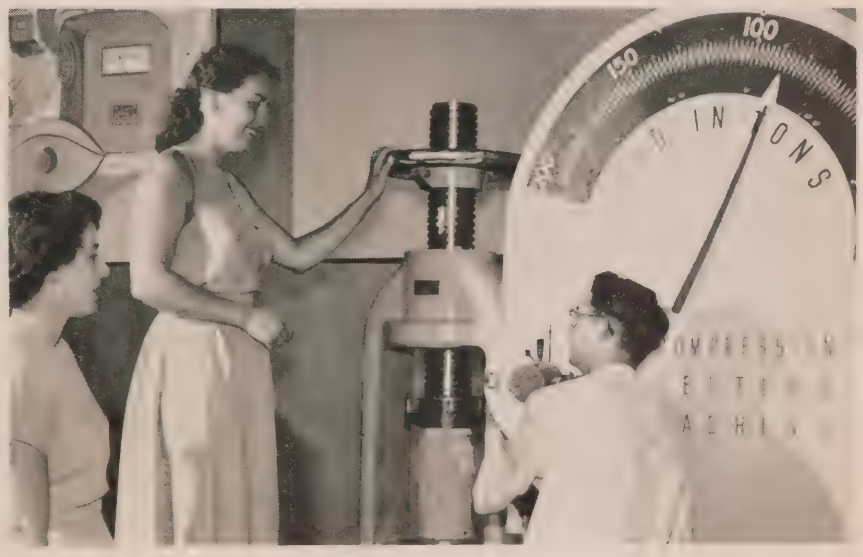
Animated Niagara Replica

The sound of falling water also drew large crowds of spectators to the colorful animated replica of the Canadian Horseshoe Falls at Niagara. Here they marvelled as hundreds of gallons of water cascaded over the 15-foot high crest of the miniature cataract while colored lights, playing on the water, simulated the nightly illumination spectacle at "The Falls."

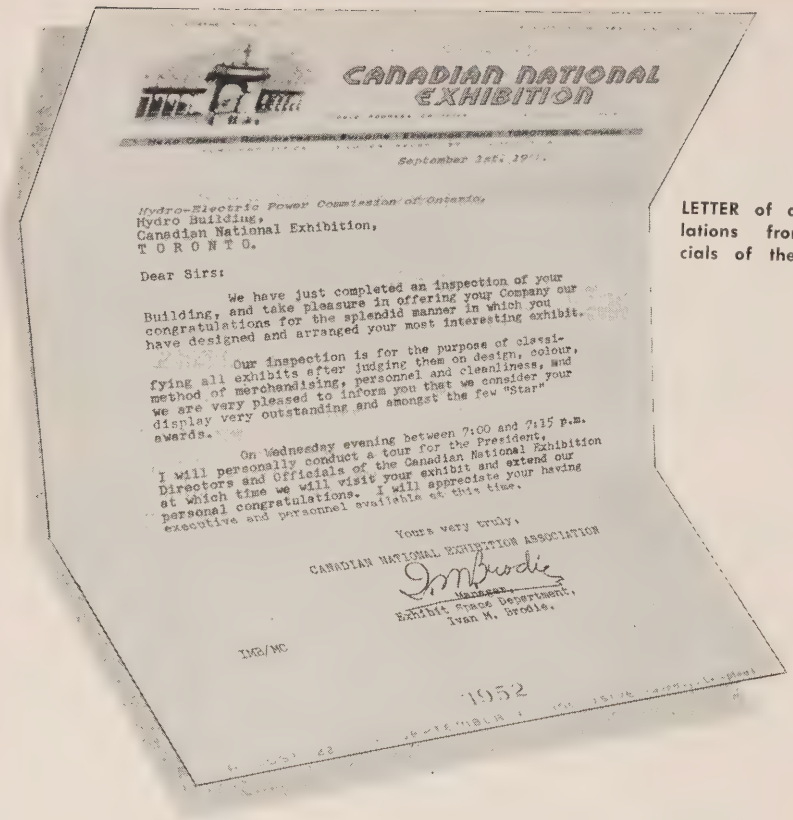
Rivalling the St. Lawrence and waterfall replicas in popularity was the large table model of Hydro's largest power project — the Sir Adam Beck No. 2 development at Niagara.

By means of lights and cut-out sections, spectators were able to follow the eventual

(Continued on page 6)



ANOTHER SECTION of the research exhibit showed the large compression machine which is used to test the strength and durability of concrete used by Hydro at its many construction projects.



CANADIAN NATIONAL EXHIBITION

September 1st, 1952.

Hydro-Electric Power Commission of Ontario,
Hydro Building,
Canadian National Exhibition,
T O R O N T O.

Dear Sirs:

We have just completed an inspection of your Building, and take pleasure in offering your Company our congratulations for the splendid manner in which you have designed and arranged your most interesting exhibit.

Our inspection is for the purpose of classifying all exhibits after judging them on design, colour, method of merchandising, personnel and cleanliness, and we are very pleased to inform you that we consider your display very outstanding and amongst the few "Star" awards.

On Wednesday evening between 7:00 and 7:15 p.m. I will personally conduct a tour for the President, Directors and Officials of the Canadian National Exhibition at which time we will visit your exhibit and extend our personal congratulations. I will appreciate your having executive and personnel available at this time.

Yours very truly,

CANADIAN NATIONAL EXHIBITION ASSOCIATION

Manager,
Exhibit, Trade Department,
Ivan M. Brodie.

IMB/MC

1952

LETTER of congratulations from officials of the C.N.E.

course of the water from the intake in the upper Niagara River, through the twin 5½-mile tunnels which will pass under the City of Niagara Falls, along the 2¼-mile open-cut canal, and thence to the new Sir Adam Beck No. 2 Generating Station. Huge photos on the wall behind the model indicated progress on the project to date.

"Before and after — Hydro," was the central theme manifested by the contrast in kitchens depicted in another section of the new building. Here countless lady visitors — and a good many male ones, too! — stopped to compare the romantic, but somewhat inconvenient accoutrements of an old-style kitchen with the gleaming, streamlined efficiency of a modern, electrified kitchen.

Electrified Farm

With Ontario rating first in the world in electrical service to rural customers, it was natural that this year's display should include, as well, a modern, electrified farm where electricity, performing myriad, once-manual tasks around the barn and farmhouse, was graphically portrayed.

Reflecting the role of research in Hydro's varied operations was the section devoted to the achievements of the Commission's Research Division. Demonstrations showed scores of interested spectators how Hydro uses the "Soniscope" to determine the soundness of concrete in its massive power dams, and the "Bolometer" to detect overheated joints in transmission lines. Both of these ingenious devices have been developed by Research Division engineers.

How radar principles have been adapted to Hydro use; how electricity is developed, and how concrete is tested for use under varying conditions were also forcibly indicated in this large display.

An industrial exhibit demonstrated how Hydro power is contributing to the production that is responsible for Canada's enviable position among the leading producing and trading nations of the world.

Frequency Standardization

Frequency Standardization in Southern Ontario was shown "on the march", with a display of many unusual types of equipment that have been changed over to 60 cycles.

It was shown how in Operation "Steeplejack," changeover crews climbed a precarious 500 feet to alter the transformer equipment on the Ambassador Bridge at Windsor.

Operation "Thumper" involved the changeover of an ingenious floor-vibrating device used by a totally deaf housewife to inform her of the presence of callers at the door.

In Operation "Juke Box" a Swiss music box, designed on the player piano principle, for which Hollywood is said to have offered $5,000, was changed over to 60 cycles.

Through Operation "Sambo," a favorite household cat, by means of an automatic door-opening device, will now be able to make a more dignified 60-cycle exit to the garden.

Last but not least was Operation "Deep Well," which has changed over the pump motors of wells in many rural areas.

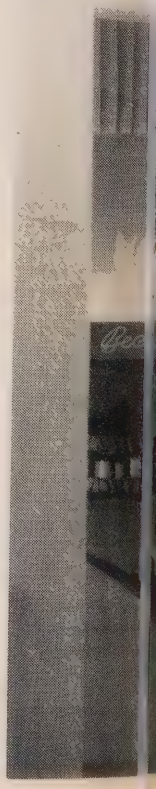
Another display demonstrated the ways in which incandescent and fluorescent lighting can be adapted to the decor of home and office interiors, while an Adequate Wiring exhibit, presented in co-operation with the Electric Service League of Ontario, showed the advantages which "Red Seal" symbolizes.

Members of Hydro's Public Relations Division staff, assisted by a temporary auxiliary staff, acted as attendants and demonstrators in the various sections of the building, remaining on duty from the opening hour until the last visitor had left, to explain the significance of each exhibit and to answer the volley of questions which the various displays evoked.

From August 22 to September 6 when the final curtain was rung down on the 1952 Exhibition, thousands of spectators crowded into the new building to see this panorama of electricity. And a gratifying number of these visitors echoed the sentiments of Exhibition Directors, who, in a letter (reproduced on this page) voiced their tribute to Hydro by declaring "we consider your display very outstanding — amongst the few 'Star' awards."

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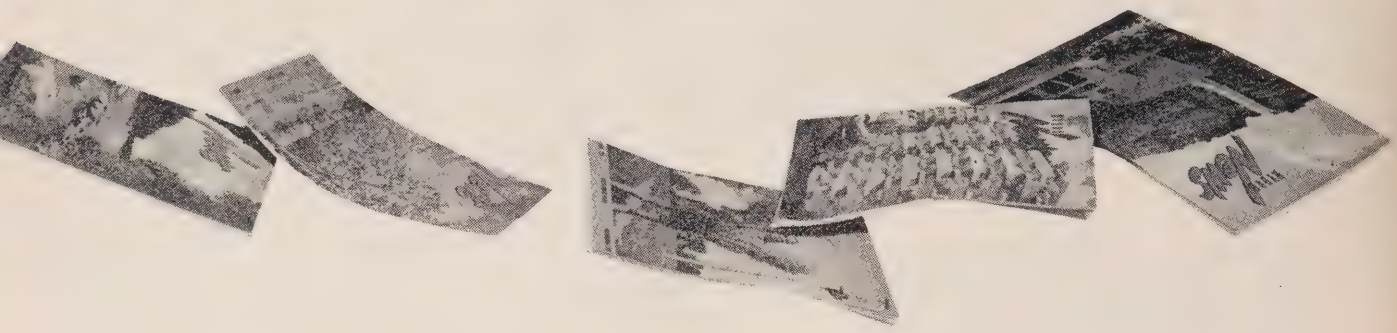


FASHIONS in kitchens as well as clothes have changed rapidly in the past few years! Hydro's exhibit attracted many ladies who marvelled at the transformation that has taken place in kitchens with the advent of electricity as depicted in the photo below. A welcome visitor to the "before and after" kitchens was Kate Aitken, noted Canadian columnist and radio personality, shown in the upper photo addressing a large throng at this interesting display. In the centre photo, Yvonne Hutton, as yesterday's housewife, admires gleaming electrical counterpart of her ancient cookstove. Kay Henshaw is the modern "sister of the skillet."

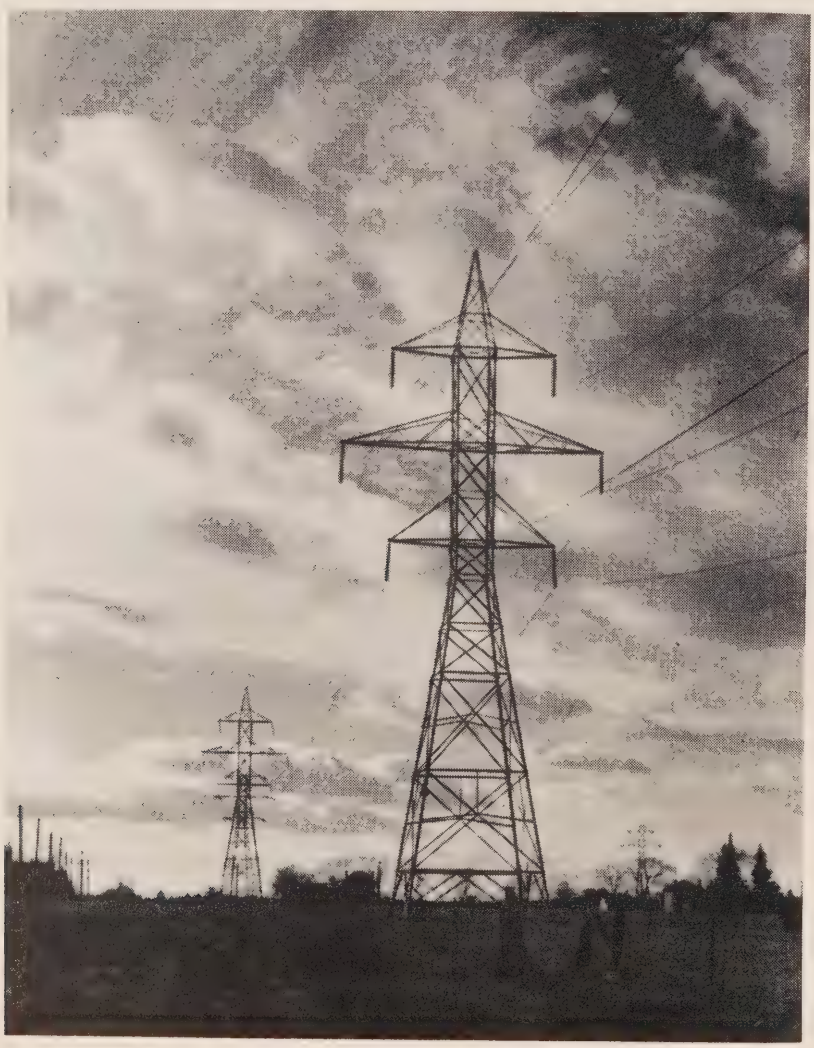




TEN YEARS AGO-AND NOW



First Editor of Hydro News—Wm. Rattray—recalls some of the important events of the past decade as he officially vacates position



REMEMBER 1942?

That is a year which comes very vividly to our mind at this time as we officially vacate the Editor's chair to apply ourself fully to the challenging duties associated with the position of Liaison Officer—Chairman's Office.

Before we undertake the highly pleasant task of telling the readers of *Hydro News* something about our exceedingly able and versatile colleague, friend, and successor, Boyd L. Graham, the new Editor, we feel that it would be fitting to comment briefly on the history of *Hydro News* and the march of Hydro since 1942.

As we observed that year—1942—comes very vividly to mind at this time for it was in June, 1942, when we had the high privilege of launching *Hydro News* as the successor to the *Bulletin,* a magazine which, over a period of 28 years, had built a fine reputation as a technical medium under the capable direction of the late S. R. A. Clement who was the Editor.

Two Primary Objectives

Hydro News made its debut with two primary objectives in mind: first, to strengthen the bonds of common interest among the members of the great Hydro

COVER PHOTOGRAPH on the first edition of *Hydro News* issued in June, 1942, taken by the late J. H. Mackay, depicted a double circuit line between Leaside and Burlington.



BOYD L. GRAHAM
who succeeds Mr. Rattray as Editor.



WILLIAM RATTRAY
former Editor and now Liaison Officer—Chairman's Office.

Family throughout Ontario; second, to interpret in simple, non-technical language or, in a popular editorial style, the passing panorama of Hydro life and progress in Ontario and the significance of Hydro achievements in relation to the welfare, happiness and progress of the people of this Province.

Jason and the Golden Fleece

During the early years in the life of the magazine there were experiences which often brought to our mind the rather thrilling adventures of Jason who set forth in quest of the Golden Fleece and who had to perform some rather extraordinary feats in order to overcome the fiery dragon of Greek Mythology before he could complete his mission. We encountered quite a few "fiery dragons!" They seemed to make their unwelcome appearances every time we ventured into that mysterious technical realm which has been and still is something of an enigma to laymen.

All we were seeking to do, actually, was to explain briefly and in simple language the story of electricity, what it is, how it is made, transported, delivered and used! We soon discovered how naive we had been when we came face to face with one "fiery dragon" after another in the form of horsepower, kilowatts, kilowatthours, kva's, ohms, installed capacity, dependable peak capacity, load factors, c.f.s. and many others.

Every time we sought to unmask one of these "monsters" for the benefit of fellow laymen, we soon found that they had friends and vigilant guardians who had to be "won over" before we could effect a successful coup. These guardians were the engineers whose training, thinking and day-to-day duties call for the most detailed, slide-rule accuracy, adherence to carefully proven procedures and the use of technical terms which are an anathema and an irksome source of frustration to the lay mind.

It is to the credit of engineers that they quickly recognized the need for more popular and dramatic interpretation in order that at least some of the mystery might be removed from technical expressions and that the exceedingly vital role of the engineering profession might be more generally understood and appreciated.

In other words, over the years, there has been a steadily growing appreciation of the all-important role of public relations in keeping the people fully informed. Today, in Hydro, public relations and engineering march together in mutual respect and with the common objective of bringing still greater benefits to the people whom they serve and in making known the tremendous story back of these benefits.

So far as the use of technical terms is

(Continued on page 10)

AFTER almost 10 years as Editor of this magazine, William Rattray has relinquished the position to devote his full time to the important duties of Liaison Officer—Chairman's office. "Bill" as he is known to a host of friends and journalistic associates, was, as his soft "burr" readily indicates, born in Bonnie Scotland. With the canniness so characteristic of his race, he made the wise decision to come to Canada in 1925. For some 12 years he was engaged in newspaper work, latterly as reporter and Day Editor of the "old Globe." After a stint in public relations work, he joined the staff of the Commission in 1942. In June that year the first edition of "Hydro News" appeared with Bill's name on the masthead as Editor. Since that time his outstanding abilities as an editor and writer, and his personal character, have earned him the esteem and respect of his colleagues. A pioneer in the field of industrial journalism, he has been honored on three occasions with the presidency of the Canadian Industrial Editors' Association (Ontario Chapter.) In taking over the reins from Bill we gratefully acknowledge his friendly counsel and guidance in the past five years. We take this opportunity of publicly expressing our sincere congratulations and best wishes for a happy and prosperous future.—The Editor.



Ten Years Ago and Now cont'd

concerned, horsepower, kilowatts, kilowatthours and dependable peak capacity have attained a certain degree of "respectability" in lay circles. However, there are still many "dragons" that offer stubborn resistance, even with the most helpful and sympathetic co-operation of the engineers!

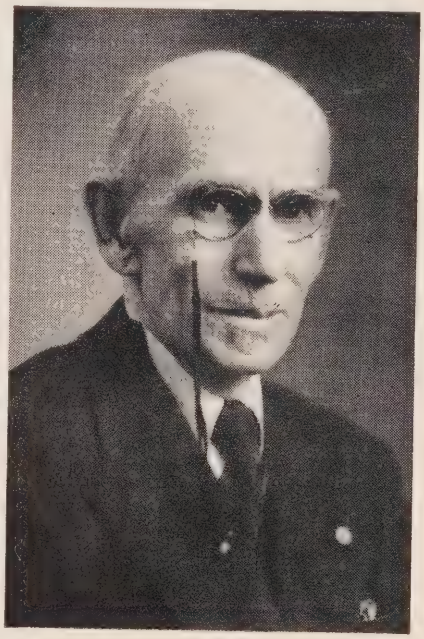
These years 1942 to 1952 to date have been filled with high adventure and unparalleled progress and all who have been associated with *Hydro News* cannot but experience a sense of pride in having had a role in recording at least part of this epic story of wonderful achievement by Hydro in Ontario.

While we remember the untiring work of those immediately associated with us in the production of *Hydro News,* we remember also with the deepest sense of appreciation the magnificent co-operation received from those who have served on the Commission as well as those charged with the responsibility of management.

And as we go back over the years, we pay our sincere respects to the memory of those who have now passed from our midst but whose work and contribution to the increasing popularity of *Hydro News* will be remembered by most of our readers, particularly within the Hydro Family throughout this Province.

There was the late J. H. Mackay who served on the staff of the Commission as a draughtsman but who attained the reputation of being one of Canada's greatest amateur photographers. During his lifetime, his prints received top awards in exhibitions not only on this continent but in Europe. Many of Mac's outstanding photographs were featured on the covers and in the pages of *Hydro News.*

Then there was the late Alan Walker who only a little over a year ago passed away in his late forties just when he was at the height of a brilliant career as a free-lance commercial and news photographer. When *Hydro News* was launched, the Commission did not have its own section for the handling of news pictures. As a result, Mr. Walker, or Al as he was known to everyone whom he met, received assignments to cover important news events for the magazine. Tall, handsome and always smiling, Al had not only the ability to make and keep friends, but he possessed that skill and enterprise which enabled him to put his subjects at ease and get many highly arresting pictures. His candid shots brought spontaneous tributes from readers far beyond the bounds of this Province.



THE LATE J. H. MACKAY

who was a member of the Commission's draughting staff for many years and a renowned amateur Canadian photographer. Many of his photographs were reproduced in early issues of *Hydro News.*

"Toil And Sweat, 'Few' Tears"

The duties of an editor and the staff of a magazine published by the Commission—an organization, which, in our opinion, is pre-eminent in its field—have been and are challenging, carrying with them responsibilities of the highest order. While we have all passed through periods of "toil and sweat" we have much for which to be thankful in that there have been few tears. In other words, letters from readers, telephone calls and personal interviews have shown that our efforts have been attended by the good fortune of producing a magazine which has pleased most of our readers most of the time.

We believe that it is worthy of comment that the circulation of *Hydro News* has increased from 4,500 to 17,000 in ten years and that the fine work done by the staff has received both national and international recognition.

Highest Award

In contests conducted in Canada and under the aegis of the I.C.I.E. (International Council of Industrial Editors) *Hydro News* has received three awards, one of these having been a highest award. On that occasion, *Hydro News* scored a 96 percent overall rating for achievement of purpose, editorial style and layout.

There are other memories which crowd into our mind as we record this somewhat rambling valedictory piece as Editor.



Panorama of *Hydro News* cover photos.

We remember, for example, the many wonderful friends we have made in Hydro municipalities throughout Ontario —commissioners, managers, folk who do the office work in the local utilities offices, linemen and others. We acknowledge at this time the many courtesies we have received from these men and women as we have visited the various districts in carrying out our duties. We are not indulging in formal platitudes when we pay sincere tribute to the folk who are giving unsparingly of their time and talents to serve Hydro on local com missions. We also pay tribute to all the men and women who serve on the staffs of local Hydro municipalities and on the staffs of the Commission's nine Regional offices.

Robert H. Saunders

As we look back upon the most significant events chronicled in the history of Hydro over the past ten years we vividly recall the month of March, 1948, when Robert H. Saunders, C.B.E., Q.C., then serving his fourth consecutive term as Mayor of Toronto, was appointed Chairman of the Commission.

At that time, some people whom we know were asking us: "What does a lawyer and a Mayor know about Hydro?"

Within a very short time, we were hearing this observation from many of the same people: "What doesn't Saunders know about Hydro?"

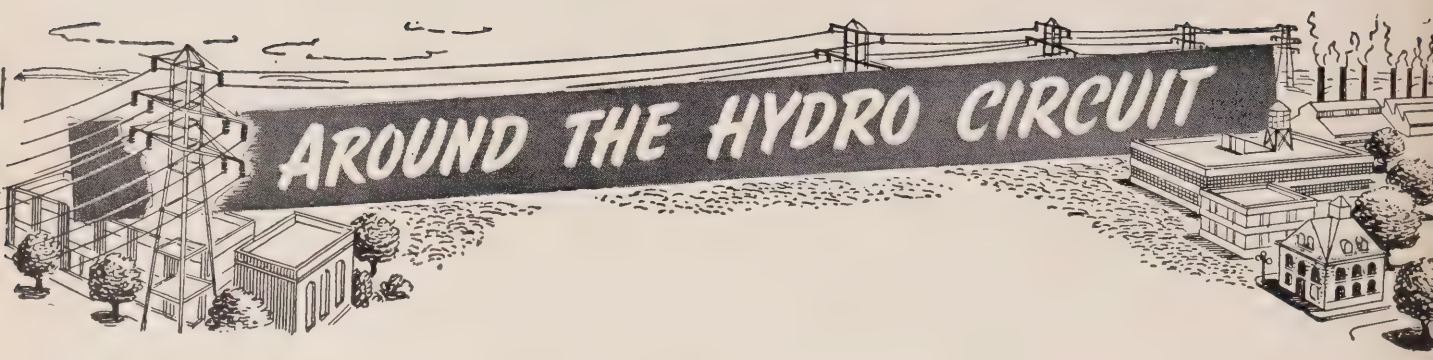
We mention these facts for we believe they are significant in that they serve to accentuate an all-important characteristic of the Chairman—an amazing, and one might add, an almost uncanny capacity for assimilating essential facts and figures quickly. Along with that capacity, he posseses, to a very marked degree, the ability to analyse highly complex problems and come up with the kind of answers which command the respect and admiration of trained engineers.

However, the name of "Bob" Saunders, whom Fortune Magazine (August, 1952) described as "Public Dynamo," is one which has become associated with "getting things done." His leadership is not of the "Ivory Tower" type. It is, to say the least, highly unorthodox but it is as colorful as it is dynamic and effective. Indeed his driving force and personality have made the kind of impact which cannot be readily expressed in words. They have made a dramatic impact throughout the entire organization, even into the most remote Hydro colony in the far north.

And now we come to that final and exceedingly pleasant duty of officially introducing our successor as Editor of *Hydro News*—Boyd L. Graham.

Boyd has been our "right hand" on the magazine for the past few years. He joined our staff after the war was over and after having served with the R.C.A.F.'s public relations branch. His journalistic background includes experience gained as a newspaperman and as assistant editor of a leading trade publi cation.

He is already very widely known among Hydro folk throughout Ontario and, actually, he has been doing the editing of *Hydro News* for the past few months. In our opinion, he has been and is doing an exceedingly fine job. We are sure that the readers of *Hydro News* will join with us in congratulating Mr. Graham and in wishing him well as he embarks officially upon his new and important duties.



FORMER MANAGER PASSES

AN exemplary career of public service came to a close recently with the death of Alexander L. Farquharson, 77, who retired as Manager of Brockville Public Utilities Commission last December.

Associated with the Brockville Commission for 29 years, the deceased took over management of that utility when it was beset by grave financial difficulties. Through his keen business judgment and administrative ability, the local commission has been free of debt for several years.

Before going to Brockville he was Manager of the Electric, Telephone and Street Railway Depts., at Fort William for a period of 15 years. He constructed the first electric street railway in Fort William, as well as 19 miles of tracks, during the years 1909-11.

Born in Edinburgh, Scotland, 1875, Mr. Farquharson received his primary education in the local schools, later studying at the Normal School in Edinburgh and at the Herriot Watt College.

In fraternal circles he was a member of Salem and St. Lawrence Masonic Lodges, the Valley Lodge of Oddfellows, Dundas, and the Brockville Kiwanis Club. He was a member of the Professional Engineers Association of Ontario. Active in church work, he served faithfully in various offices of the Brockville First Baptist Church, being treasurer and deacon for many years.

He is survived by his wife, the former Miss Jessie E. Middleton, of Sunderland, England.

Obtains Ph.D. Degree

WITH completion of his studies on "infra-red spectra of gases at extremely high pressures," P. J. Sandiford, research physicist on the staff of Ontario Hydro's Research Division has obtained a Ph.D. degree from the University of Toronto.



Dr. Sandiford

Dr. Sandiford, who is conducting research in basic physics, with particular emphasis on Commission applications, graduated from Varsity in Mathematics and Science, receiving his M.A. degree in 1940.

Editor of the R.C.A.F. manual on meteorology, he was attached to the meterological section of the R.C.A.F. as an airways weather forecaster at Malton Airport near Toronto during World War II.

Later, Dr. Sandiford was engaged as a research physicist with the Imperial Oil Company. Here he handled liaison work for several international oil companies, and assisted in the development and installation of laboratory spectroscopic equipment for Polymer Corporation and the Imperial Oil Company. In 1946 he was appointed lecturer in physics at the University of Western Ontario, specializing in optics and quantum mechanics.

Dr. Sandiford is well known as one of the founders of the Canadian Association of Physicists, having served on the executive since its formation in 1945.

Hydro to the Rescue

CECIL R. CARVETH, Commissioner for 14 years, Newcastle Hydro-Electric Commission, and Roy Douglas, Frequency Standardization Division, Ontario Hydro, recently rescued two men after their boat capsized at Carrying Place, just off Brighton, 50 miles west of Trenton.

The men, veterans of the Korean war, attracted attention by whistling. Mr. Carveth and Mr. Douglas found them clinging to the bow of the capsized craft.

One man, handicapped by the loss of a hand, was immediately pulled out of the water. The other man held on to the boat while Mr. Carveth and Mr. Douglas towed it behind their outboard motorboat to a nearby island, where it was emptied and towed back to the mainland.

The two veterans, one with a family of two small children, the other with three, showed no ill effects from their impromptu ducking.

Classified Ads

FOR SALE

CANADIAN WESTINGHOUSE AC Motor —DC generator set mounted on common base with common shaft. Motor: Canadian Westinghouse, Type CCL, 550 volts, 3 phase, 25 cycle, 10 H.P., 1450 R.P.M. Serial 44768; O.C. Generator 6.6 KW, 600 volts, 11 amps. 1450 R.P.M., No. 44610; Auto-starter Westinghouse, style H 3638, 550 volts, 3 phase, 25 cycle. **Apply J. W. Peart, General Manager, Public Utilities Commission, 36 St. Catharine St., St. Thomas.**



WALNUT TABLE acquired by Mrs. James D. Good, centre, when Sir Adam Beck's London home, "Headley," was sold, is presented to R. M. Laurie, Mgr., Western Region, right, on behalf of Ontario Hydro, by James R. Good, son of the donor, left, during brief ceremony.

In Memoriam

Toronto and London ceremonies mark 27th anniversary of Sir Adam Beck's death

TWO significant ceremonies marked this year's observance of the anniversary of the death of Sir Adam Beck, first Chairman of Ontario Hydro.

In Toronto, at a ceremony arranged by Toronto Hydro-Electric Commissioners, Ontario Hydro, Toronto Hydro and civic representatives, as well as executive officers of the O.M.E.A. and A.M.E.U., paid tribute to the memory and achievements of the Hydro knight when they laid wreaths at the foot of his statue on University Avenue. Bert Merson, Vice-Chairman of the Toronto Hydro-Electric System, presided during the brief remembrance service.

Later at a luncheon gathering, Hydro Chairman Robert H. Saunders, introduced by Mayor Allan Lamport of Toronto, said that Sir Adam, who died on August 15, 1925, had dedicated his life to an abundant supply of power. That is still the object of Ontario Hydro, he said.

Almost at the same hour a ceremony was held at Ontario Hydro's E. V. Buchanan Transformer Station near London when the early Canadian walnut table, which had been used in Sir Adam's library until his death, was presented to the Commission. The presentation was made to R. M. Laurie, Manager of the Western Region, by James R. Good on behalf of his mother, Mrs. James D. Good.

Accompanying the presentation was the framed letter from Mrs. Good, who wrote: "I think it most proper and suitable that it be preserved in one of the great power projects which are the result of Sir Adam's vision and life work." In reply Mr. Laurie said this gift might be the forerunner of a "new page in Hydro history." Present at the ceremony was E. V. Buchanan, retired General Manager of London Public Utilities Commission, in whose honor the station was named, and an intimate friend of the "Father of Hydro," as well as other Ontario and municipal Hydro representatives.

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PARTICIPATING in the ceremony at Sir Adam's monument on University Avenue, Toronto, were, l. to r., H. J. MacTavish, Gen. Mgr., Toronto Hydro; N. A. Grandfield, Galt, Vice-Pres., A.M.E.U.; D. P. Cliff, Dundas, Sec.-Treas., O.M.E.A.; Bert Merson, Vice-Chairman, Toronto Hydro; Mayor Allan Lamport; Rev. Canon F. H. Wilkinson, Toronto, who offered the dedicatory prayer; Chairman Robert H. Saunders with Toronto Controllers, David Balfour, Ford Brand and J. L. Shannon.

MOBILE INFO





ON "LOCATION" in North York Township, the trailer receives a visit from Dr. R. P. Johns, Chairman, North York Hydro Commission, left. He is greeted by Eric Robertson, Field Publicity Officer, Public Relations Division, (F.S.D.) Ontario Hydro.

ONTARIO HYDRO'S Public Relations Division has inaugurated a novel and effective method of providing customers with "on the spot" information about the 60-cycle changeover program.

The Frequency Standardization Department of the Division has equipped a large trailer as a travelling information bureau, and is sending it into the areas where the "cutovers" are being made. Visits of the trailer to the various "Changeover Areas" are preceded by a well-planned campaign of advertising and news stories.

In North York Township, north of Toronto, where it has been "on location," the trailer has proven an outstanding success, with an average of 60 to 70 of North York's Hydro customers visiting it each day.

Since many customers find it difficult if not impossible to get to the trailer during the working hours, it is kept "open for business" from 1 p.m. to 9 p.m. each week-day, and from 9 a.m. to 6 p.m. on Saturdays. A field publicity officer from the Frequency Standardization Department, is on duty during those hours to receive customers and furnish them with answers to their questions.

Graphic Displays

Supplementing the verbal story of "Operation Standardization" are several graphic displays. For instance, a lighted panel shows how the annoying flicker in fluorescent lights disappears when the "cutover" to 60 cycle service is completed. Another display demonstrates the differences in speed, vibration, and sound between a 25 and 60-cycle motor. A third shows how 25-cycle motors are rebuilt, for 60-cycle use.

As a high percentage of customers preface their inspection of the trailer with the query: "When will my home be changed over," perhaps the most interesting feature of the mobile information unit is the large map which shows the exact changeover date for the various sections of the area concerned.

The trailer, it is felt, helps give the customer a better understanding of his or her role in "Operation Changeover", and promotes the co-operation so vitally necessary to the program's speed and efficiency.



ATION BUREAU

Large red trailer, equipped with maps and displays, provides customers with "on-the-spot" information about Ontario Hydro's Frequency Standardization program

LOOKING OVER the new "information bureau on wheels," are H. H. Leeming, centre, Director of Frequency Standardization; J. A. Blay, right, Director of Public Relations. William H. Dalton, Manager, F. S. Department, Public Relations Division is discussing the visual displays, which supplement oral talks and maps.



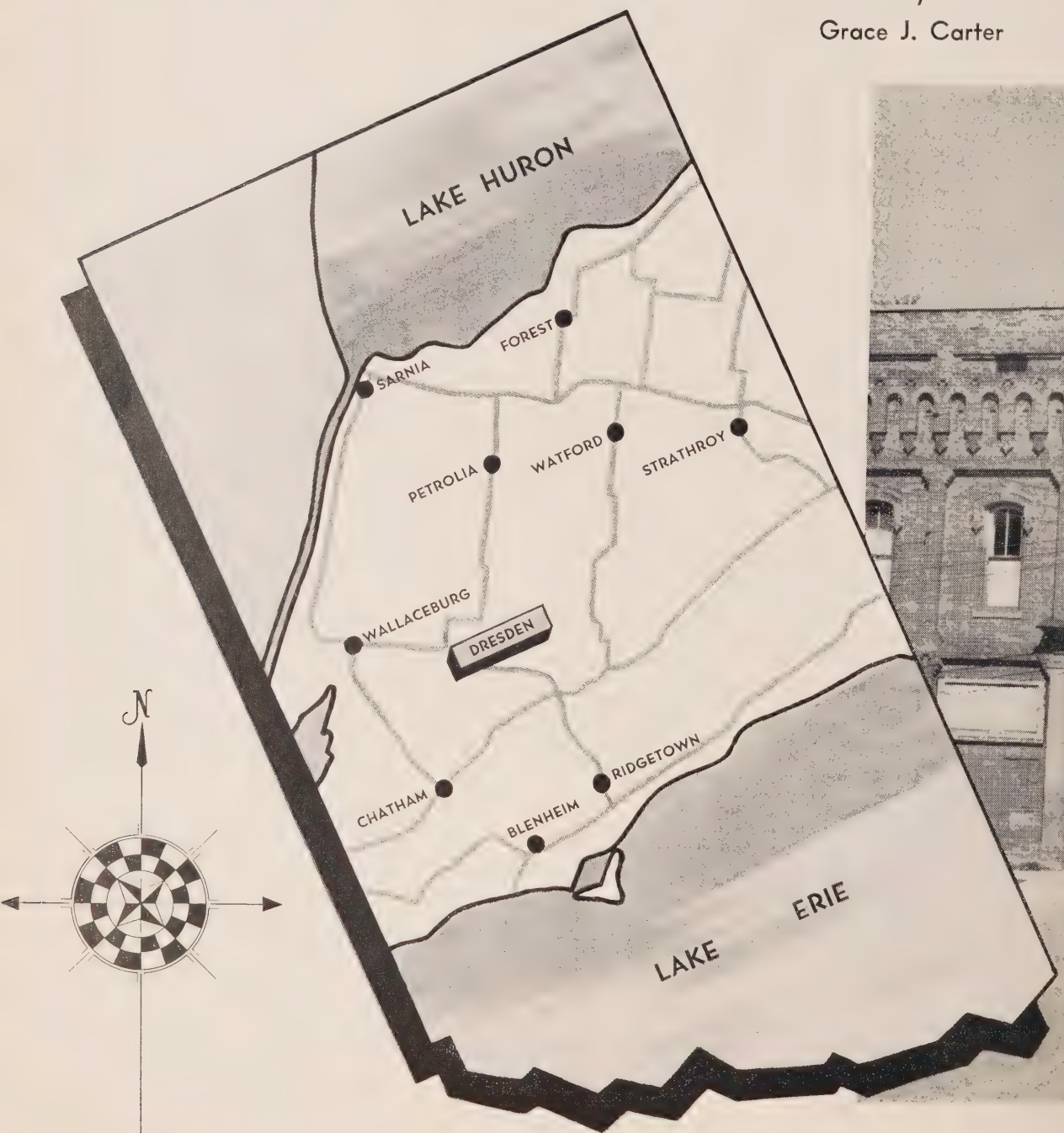


DR. JOHNS discusses the map of North York Township showing the various "cutover" sections with Field Pub. Officer W. M. Beecroft, Ontario Hydro.



DRESDEN

by
Grace J. Carter



CITIZENS of Dresden always associate their town with springtime for it was in the early spring of 1825 that the first white settler arrived there.

An important Kent County centre on the Sydenham River, some 20 miles from Chatham, this now-flourishing municipality has an interesting history that can be traced back over the past 150 years or more.

In May, 1790, the McKee Treaty was signed by the Indian Chiefs of the Ottawas, Chippewas, Hurons, and Pottawattomies. By this treaty they relinquished ownership of part of the unbroken tract of forest land which once was known as Upper Canada. The white man agreed to pay £1,200 for this land, but, it was not paid in cash. The copper-skinned vendors took blankets, scarlet cloth, guns, pipes, brass kettles and hundreds of other articles in place of gold.

Eventually, the area was divided into four districts, and Kent County was one of these districts. By 1820, after substantial areas had been cleared, the first settlers began to arrive. In those days, 100 acres of land sold for $20.

Haven for Slaves

Dresden got its start in 1825 when the schooner, "Olive Branch," brought Gerard Lindsley up the Sydenham River to settle on a lot which is now part of the southeast section of the town. The area soon became famous as a haven for fugitive slaves who escaped from United States into Canada and took refuge along the south bank of the Sydenham River in the Township of Dawn. In 1830, Josiah Henson, later to be memorialized by Harriet Beecher Stowe in her book "Uncle Tom's Cabin," arrived from Buffalo.

He worked for farmers in the district and preached to his fellow-refugees. History records that his knowledge of the Bible was limited, but, he had a forceful way of speaking and was soon recognized as their leader. His main topic was the evils of slavery, and his chief concern was to obtain independence and freedom for the members of his race. He lived in the Dresden area until his death. His grave, today, is a well-known landmark, just outside the town limits.

First Known as Fairport

In those early days, the hamlet was known as "Fairport," but, in 1854, a post-office was established and the postal authorities renamed it Dresden. The mail was brought in over the rough roads by stagecoach and the only means of getting across the river was by ferry.

Timber was the main source of revenue and employment, and this was brought to sawmills in the village for cutting. Any surplus was floated down the river in rafts to the mills in other settlements which were springing up in the district. Thus, a flourishing trade was established.

Settlement did not extend north of the river to any great extent until after 1864 when a wooden bridge was erected. It is interesting to note that the bridge was financed by tolls. It cost 10 cents for a wagon and two horses to cross the first bridge. A wagon and one horse cost five cents, while the toll for a horse or mule was three cents. Cattle evidently were not valued as highly as they are today for they charged only two cents for an ox or a cow and hogs; sheep and other animals were only one cent.

Shipbuilding became an important in-

(Continued on page 18)

★



DRESDEN'S busy main thoroughfare. One of Kent County's many prosperous municipalities, the town, with a steady but unretarded growth, was incorporated in the year 1881.



HIGH-POWERED shaper making truck sills at the McVean Woodworking Factory first established at Dresden in 1874. Plant specializes in manufacture of sleigh runners, wheels, hockey sticks.



GREENMELK CORPORATION dehydrates grass to produce fine, dry powder used as a base for baby foods and several types of animal "starters." Has average production of 45 tons per day.



(Continued from page 17)

dustry around this time as boats were needed to carry cordwood and timber down the river to other markets. Hunting and fishing also proved profitable as there was plenty of game in the surrounding woods, and the Sydenham River was teeming with fish. Short pleasure trips on the river were very popular and many dances and social gatherings were enjoyed on trips to Walpole Island and Detroit.

Dresden was incorporated as a village in 1872 and as a town in 1881.

Power Supply

Electricity first came to Dresden in 1889. Power was supplied by a plant owned and operated by William F.

★

AUTOMATIC die-caster engaged in turning out metal street numbers. Machine also produces quantities of refrigerator door handles.





FAMOUS "Louisville Slugger" baseball bats and croquet sets are chief products of this Dresden factory. Electrically-operated machine is "roughing out," and shaping bats.

★

Jamieson. Street lighting cost 10 cents a unit per night, and the rates for domestic or commercial lighting were similar. In 1901, the town purchased the plant for $10,000 and retained Mr. Jamieson to operate it. This plant was used until 1908, when power was first purchased from Ontario Hydro. In 1914 the Dresden Hydro-Electric Commission was formed. At that time the load was 150 kilowatts. Today it is 1,000 kilowatts. The local commission now serves 595 domestic, 153 commercial and 20 industrial customers over 18 miles of distribution line.

During the past 35 years there has been a steady reduction in the cost of service to customers. In 1916, with an average domestic monthly consumption of 12 kilowatthours, the average cost was 7.5 cents per kwhr. At the present time the average monthly consumption of domestic users is 108 kwhrs. and the average net cost per kwhr. is 1.74 cents.

New Headquarters

Evidence of the Dresden Commission's expanding operations is its spacious new headquarters on Main Street. For over 35 years, the commission and its employees had been operating in cramped quarters on St. George St. One day a year ago, they took time out to move to their spanking new offices which one employee described as "a dream come true," when *Hydro News* paid a visit to Dresden.

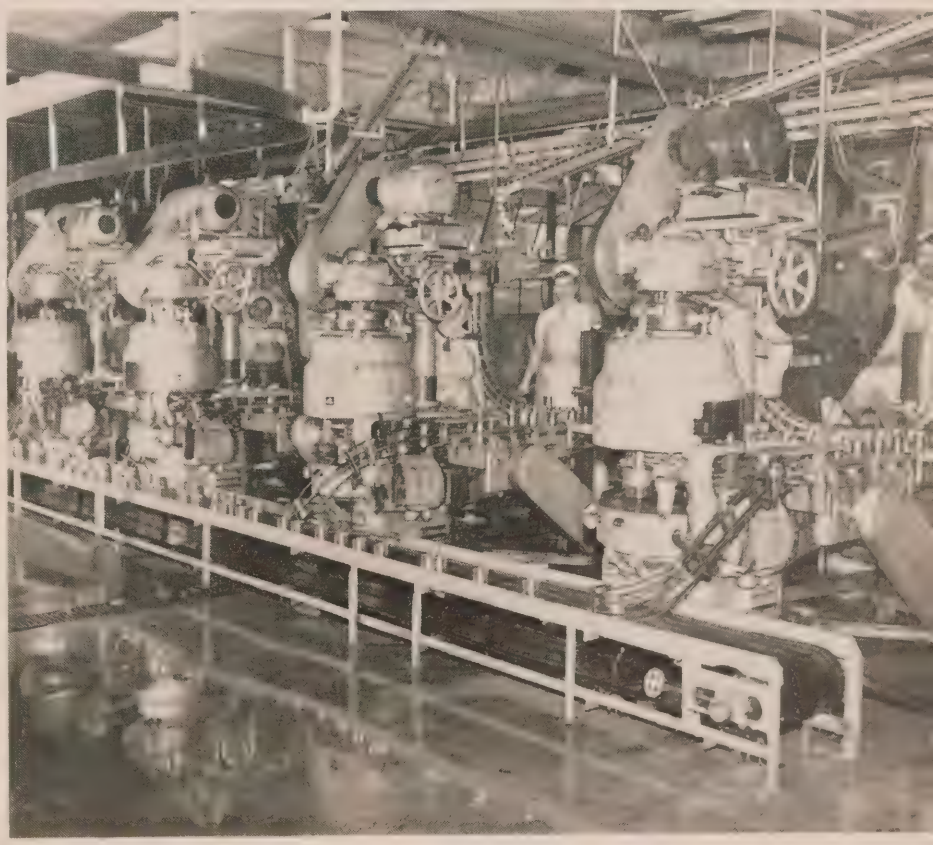
The single-storey building allows ample space for a show-room, business office, meter and storage rooms, as well as a three-truck garage. Of red brick and steel construction, the new structure also boasts terrazzo floors, and insulated roof, being finished in white plaster with natural-finish trim and panel doors.

The new showroom has large plate glass windows with plenty of floor space for displaying electrical appliances. Fluorescent lighting and effective spotlighting is employed for special displays. A private office and board room are located just off the general office. The new building also includes a repair shop where customers' appliances are repaired as a special service.

The new structure was designed by Superintendent C. W. King while a firm of local contractors handled construction. When completed, it was said

(Continued on page 21)

★



IN THE MODERN FACTORY of Canadian Canners Limited at Dresden some 900 cans of tomato soup per minute are processed. Tins are being filled automatically with hot soup.

MODERN headquarters of Dresden Hydro-Electric Comm. which was completed in 1951.

ATTRACTIVE SHOWROOM is located at main entrance to the new building for display of electrical appliances and equipment. Business office is at the rear of display area.





ROY HOLMES (left) and Tom Monk, linemen, rebuilding a transformer bank in this photo.



NOW USED as a museum is the former home of Josiah Henson, memorialized by Harriet Beecher Stowe in "Uncle Tom's Cabin."

(Continued from page 19)

that the community had a $50,000 building at an actual cost of about $28,000.

Further proof of the Dresden Commission's growth was the recent installation of a new bank of transformers at the local substation. Double the capacity of the old units, the new transformers have solved the problem of overloading and leave a substantial margin for additional loads in the future.

Present Commission

The present Commission consists of Chairman C. J. Craven; Mayor Harold McKim, and Commissioner Gordon Wees, along with Superintendent C. W. King, and Secretary - Treasurer, Emily L. Bullough.

Industrial Centre

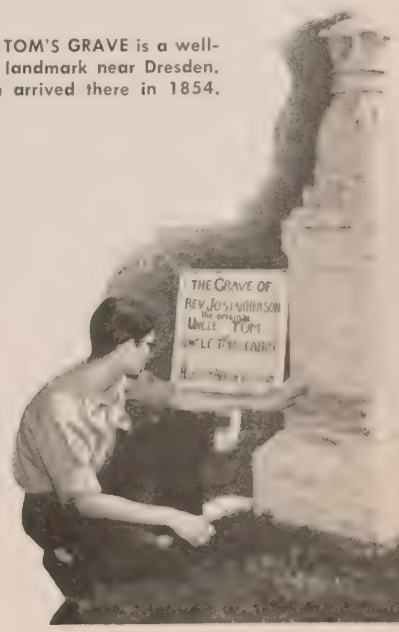
The community is a flourishing industrial centre. Some of the leading industries are O. & W. McVean's Woodworking Factory, which has been operating since 1874 and turns out wagon wheels, race carts, sleigh runners and hockey sticks. McVean's have another plant where the famous "Louisville Slugger" baseball bats are made. They also make croquet sets. The National Hardware Specialties manufactures die cast pulleys and all kinds of kitchen and other hardware. The Greenmelk Corporation produces dehydrated grass for use in babies' foods. Canadian Canners Ltd. has a very modern factory where 900 cans of tomato soup per minute are processed. The company claims that it is only 20 minutes from the time the tomatoes come into the plant, are inspected, prepared, cooked, sealed in the cans, labelled and put in the cartons ready for shipment. Dresden also is the home of two planing mills, a flour and a sawmill.

Two newspapers keep the town well

(Continued on page 22)



TYPICAL of the many attractive homes in Dresden is this group of modern dwellings on Victoria Avenue. Dresden Hydro Commission serves over 500 domestic and 150 commercial customers.



UNCLE TOM'S GRAVE is a well-known landmark near Dresden. Henson arrived there in 1854.

posted on world and local events. They are the **Dresden Times** published by Huntley W. McKay, and the **Dresden News** published by A. G. Ross and son, Charles.

New District High School

The town's 2,400 citizens are justifiably proud of its neat, well-kept homes on streets lined with beautiful shade trees; its well-stocked public library, and its churches. They are equally proud of its fine schools. At the present time a new district high school is being built at a cost of some $500,000 and is scheduled for completion by the end of the present year.

Noted for its recreational facilities, Dresden has a baseball club; a brass band which presents summer concerts in the park in the centre of the town, and an athletic park equipped with swings, slides, and a wading pool for the younger citizens.

An important event each year is the annual fair held at the Dresden-Camden Fair Grounds. This year attendance at the fair broke all records, with 17,000 people filing through the turnstiles for the opening of the three-day event.



SECRETARY-TREASURER of Dresden Hydro-Electric Commission for the past seven years, Emily L. Bullough takes an active part in community work. She was born in London, Eng.



MEMBERS of the 1952 Dresden Hydro Commission, left to right, Commissioner Gordon Wees, Mayor Harold McKim, Superintendent Clarence W. King and Chairman C. J. Craven. A native of Dresden, Mr. Wees has been a member of the local commission for the past year. In the automotive business, he is active in service club and fraternal circles. Mayor McKim, born in Chatham Township, has a lengthy record of municipal service in Dresden. Married, he has one son. A former employee of Ontario Hydro, Supt. Clarence "Curly" King joined the Dresden Commission in 1944. With Hydro as his main hobby, he has little time for his favorite sports, bowling and golf. He was born and educated at Ridgetown. Clarence J. Craven, this year's Chairman, has served on the Dresden Commission for the past 20 years. His name appears on a bronze plaque in the commission's new offices with that of the late Mayor Walter Weese and former Commissioner O. J. Martin.

HYDRO *Home Forum*

by Edithemma Dighton
Hydro Home Economist



Thanksgiving is quite often the occasion for a family gathering. Sons, daughters and relatives from far and near gather around the festive board. Therefore, the table cannot be small nor the food too delectable.

* * *

A popular Thanksgiving menu: Fruit cup; roast duck with orange sauce; browned potatoes; glazed onions; carrots with green peppers; raw turnip sticks; candied apple pie and old cheese; tea or coffee.

* * *

If the hunter in your family brings home wild ducks this fall, be sure you know a bit about how to cook them. First, cover a wild duck with hot melted paraffin wax to remove the feathers.

* * *

A wild duck should be drawn the same as any other bird. Stuff the duck with 2 or 3 pieces of celery and 1 or 2 onions. Place strips of bacon on the breast and roast uncovered in an electric oven of 350 degrees. Allow about 15 minutes to the pound. Baste occasionally with red currant jelly.

* * *

Don't forget that an easy way to frost drop cakes is to dot with pieces of marshmallow and broil until the marshmallow softens.

* * *

A teaspoon of grated old cheese added to fruit salad dressing will add a taste that is interesting and distinctive.

* * *

Keep this in mind when you have a recipe calling for slivered almonds! Three-quarters of a cup of blanched almonds will give you a cup of slivered ones.

* * *

Experimental kitchens have reported recently that meringues baked on hot fillings bake more evenly and are less likely to weep than those baked on cold fillings.

* * *

Have you noticed that color is the fashion with pastry? In place of water, try orange coloring in orange juice or maraschino cherry juice or yellow colored water and lemon rind. The flavor, too, makes a delightful difference.

* * *

Soften dry marshmallows by placing in a sealer with a piece of soft bread.

* * *

Chocolate Cocoanut Marshallows are a tasty treat for shut-ins: Heat eight squares of Dot Chocolate until partly melted; then remove from heat and stir rapidly. Dip marshmallows in chocolate, one at a time, roll in cocoanut or nuts and place on wax paper. This makes 4½ dozen.

* * *

Crocus cloth can be used on numerous occasions for effacing nicks. "Sharp-edge" scratches on aluminum trays or the wringer shelf can be rubbed down.

* * *

Experience is often expensive! Remember to saturate spots of paint on material with oil of any kind. Baby oil, car oil, vaseline will often lift paint. Turpentine may be used as a last resort, but, it hardens the material if applied before the oil.

* * *

Vegetables for oven meals are scalloped, roasted, baked or steamed potatoes. Carrots, onions, corn or beets may be prepared in various ways, too.

* * *

Pimentos: Do not forget to store peppers in a jar which can be sealed tightly. All you do is cut in half, trim out fibres and seeds, wash, then pat dry and tuck into a jar. Cover with salad oil and seal. Store in a cool place.

* * *

Extra dividend: Chopped nuts added to a conserve. These should be added to the conserve as it is removed from the electric element.

* * *

Prevent baked apples from bursting at the top by peeling one-quarter way down from stem end. Then, too, add ¼ inch of water in the baking pan after the stuffed apples have been prepared for the oven.

* * *

Oil on troubled waters! Always pour olive oil or salad oil on top of a jar of olives or dill pickles as soon as they are opened. Keep covered and stored in the electric refrigerator.

BAKED BEANS

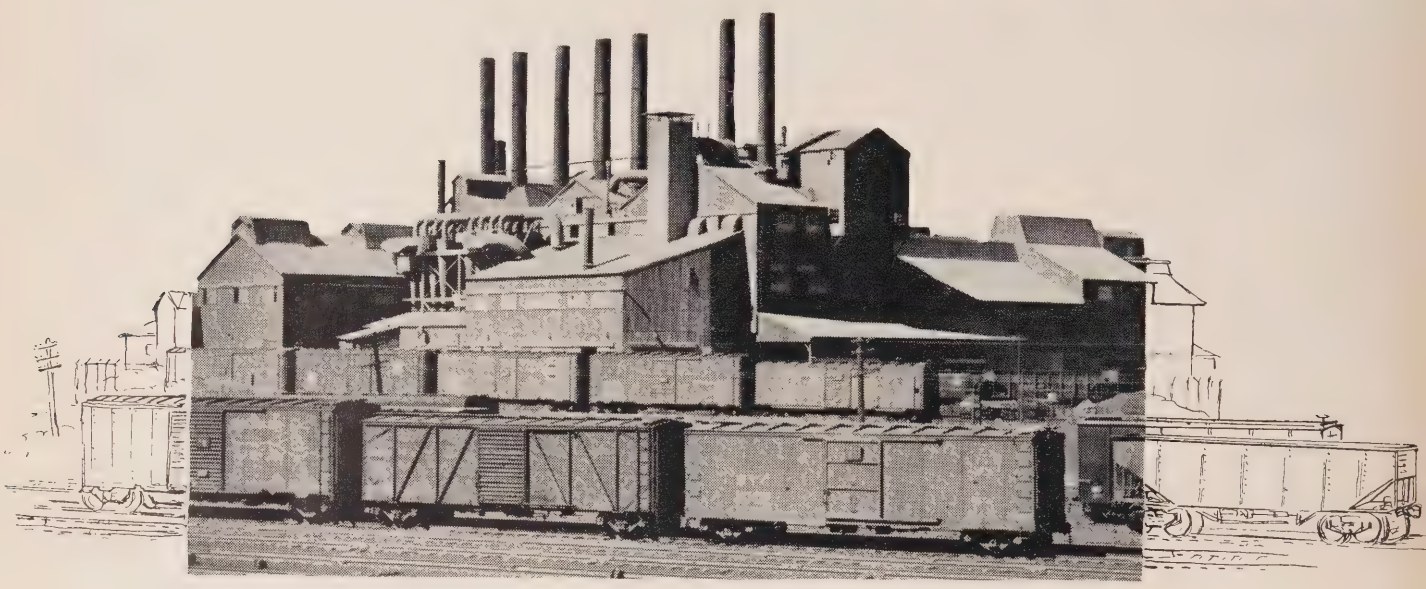
(serves 4)

1½ cups dried beans
water to cover
¼ cup minced onion
¼ lb. sliced pork
2 tbsps. molasses
3 tbsps. catsup
1 tbsp. mustard
1 tbsp. salt

Cover beans with water. Bring beans to boiling point. Drain, cover with water again and bring slowly to boil. When you can pinch off the skin easily, drain and add the remaining ingredients. Place the bean mixture in a greased casserole, cover and bake in electric oven of 250 degrees for 6 hours. Uncover during the last hour of cooking.

BIG FIVE

North American Cyanamid Limited places another large electric furnace on the production line at its Niagara Falls plant



SECTION OF PLANT WHICH PRODUCES IMPORTANT DEFENCE MATERIALS.

HYDRO'S contribution to Canada's growing industrial strength was underscored recently when a new calcium carbide furnace at the Niagara Falls plant of the North American Cyanamid Limited took its place on the production line.

Marking the significant event, Hydro Chairman Robert H. Saunders, in the presence of government, civic and company officials, as well as a large group of Cyanamid employees, threw the switch on one of the world's largest electric furnace transformers to officially place No. 5 furnace in operation.

Regarded as the most modern electric calcium carbide furnace on the continent, the huge installation is a vital, integral part of the company's $4 million expansion program which is witnessing important additions to the facilities of its Niagara Falls and Welland plants.

Presiding at the opening ceremony, Charles G. MacDonald, the plant's Personnel Manager, revealed that the furnace, which represents an investment of some $2 million, was designed by company engineers and the greater part was built by plant employees.

Mr. MacDonald, who lauded the foresight of Ontario Hydro in expanding its generating facilities to keep abreast of the province's mounting industrial output, said the plant was the only one on the continent manufacturing calcium cyanamid.

Important Product

This product, he pointed out, was one of the important materials used in the manufacture of such highly essential defence and civilian commodities as rubber, fibres, agricultural and mining chemicals, explosives, plastics, resins and adhesives.

Mayor Ernest M. Hawkins, Niagara Falls, Ontario, and Robert C. Young, President of the Greater Niagara Chamber of Commerce, extended congratulations to the company on this new evidence of progress, while Hon. Charles Daley, in the dual role of Chairman of the Niagara Parks Commission and Ontario Minister of Labor, praised the company as a fine example of co-operation and understanding between employees and management.

Introducing Mr. Saunders, A. O. Williams, Cyanamid's Vice-President said "this new unit is a real contribution to the wealth of Canada. It will augment the production of the four other furnaces supplying chemicals for Canada's and the United Nations' expanding defence program."

106-Ton Transformer

Before throwing the switch on the 106-ton transformer, Mr. Saunders spoke briefly, referring to the significant part Hydro had the privilege of playing in Ontario's, as well as Canada's industrial development. Referring specifically to the increasing power requirements of the Cyanamid company, the speaker pointed out that the company's average load for 1951 was approximately 100,000 kilowatts, or more than eight times greater than the average load for the City of Niagara Falls.

Following the formal ceremonies, guests inspected the new furnace and witnessed the tapping of white-hot molten carbide.

The new furnace features a new process of automatically producing electrodes as a means of eliminating shutdowns or interruptions for replacement of electrodes.



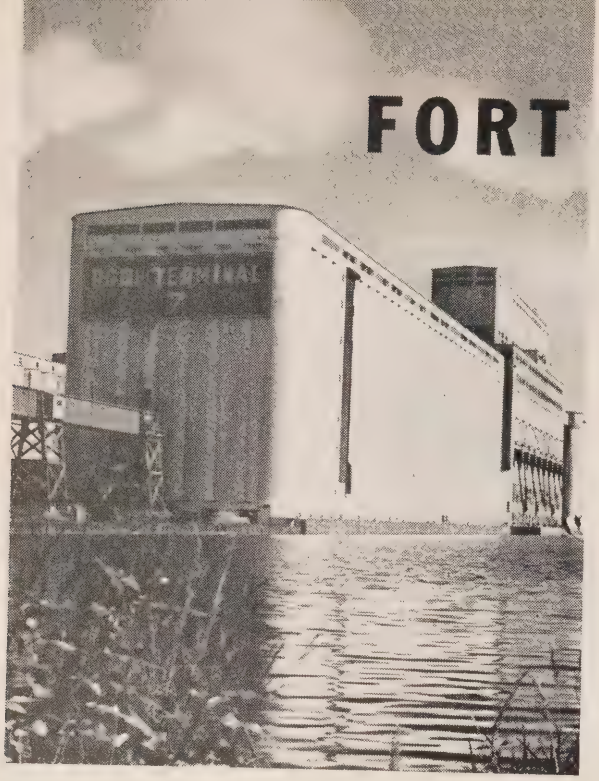
HOT STUFF this calcium carbide! Inspecting the new electric furnace after the official opening ceremony was this group of Ontario Hydro and North American Cyanamid representatives, left to right, J. R. McCullough, Operations Engineer, Niagara Region; W. L. Fraser, Field Project Engineer, Sir Adam Beck No. 2 development at Niagara Falls; John H. Wilson, N. A. C. L.; J. A. Blay, Hydro's Director of Public Relations, and William Hogg, Asst. Field Project Eng., Niagara.



CONGRATULATIONS to the company on their large-scale expansion program were extended by Hydro Chairman Saunders (shown speaking) and other Ontario and civic offiials during brief ceremony in Niagara Falls plant.



PLACING the continent's most modern calcium carbide furnace in service, Hydro Chairman Robert H. Saunders throws the switch on the 106-ton transformer. Participants in the ceremony included, l. to r., Louis Fine, Chief Conciliation Officer, Ontario Dept. of Labor; R. C. Young, Pres. Greater Niagara Chamber of Commerce; Mayor Ernest M. Hawkins, Niagara Falls (Ont.); Hon. Chas. Daley, Ontario Minister of Labor; Mr. Saunders, J. J. Webb, President, N.A.C.L. Employees' Association, and A. O. Williams, Vice-Pres., North American Cyanamid Ltd.



FORT WILLIAM'S Diamond Jubilee

FORT WILLIAM opened the pages of history a few weeks ago for a nostalgic glance back at its colorful and interesting past.

In celebrating the city's Diamond Jubilee, citizens of the lusty Lakehead municipality recalled the evening of March 1, 1898, when the streets were first "lit up." On that memorable occasion the chief engineer at the little 200-horsepower steam plant on the Kaministiquia River threw the switch. Immediately the wondrous glow of electric lights cut through the darkened town amid the cheers of the townsfolk. For many, it was their first experience with the magic of electricity.

Also remembered was that important milestone marked in 1907 when, with a population of 15,000, a new city hall, a police and fire department, not to mention railway and telephone services, the proud citizens of the expanding community placed the name of Fort William on the growing roster of Canadian cities.

For the old timers, the Diamond Jubilee celebrations were refreshing and revitalizing as the early morning rain which offered a freshly-laundered city to the celebrants.

Dedicate Memorial Park

That morning, Mayor Hubert Badanai, with members of the city council and other civic officials, dedicated Memorial Park as a tribute to Fort William's early citizens. In the hushed city square a large throng stood silently as the Roll of Honour, bearing such names as McKellar, Vickers, Murphy and many others, was read out in grateful recognition of their contribution to the development and growth of their city.

Flashes of color from the uniforms of 10-man Guard of Honour representing the Lake Superior (Motor) Scottish Regiment, in command of Captain Robert Sime, and from the blue berets of marching veterans added to the pageantry. Onlookers watched with pride as a native son, Lt.-Col. Keane, D.S.O., recently returned from Korea, inspected the guard of honour.

In the afternoon, thousands thronged the streets to see a colorful parade of some 90 floats and marching units. The Hydro float sponsored by the Fort William Hydro-Electric Commission showed the contrast between a kitchen of 1892 vintage and a modern housewife's dream.

Old-Timers Banquet

Following the parade and presentation of prizes for the

NATIVE SON, Lt. Col. Keane and Mayor Badanai take the salute as the parade moves off led by the color party.



best float and marching unit at McKellar Park, some 200 of Fort William's old timers sat down to a banquet in the Norman Room of the Royal Edward Hotel.

Speakers included representatives of the Federal and Provincial Governments, company representatives from the Canadian Pacific Railway and the Canadian National Railway, as well as civic officials from Port Arthur, Duluth, and other municipalities.

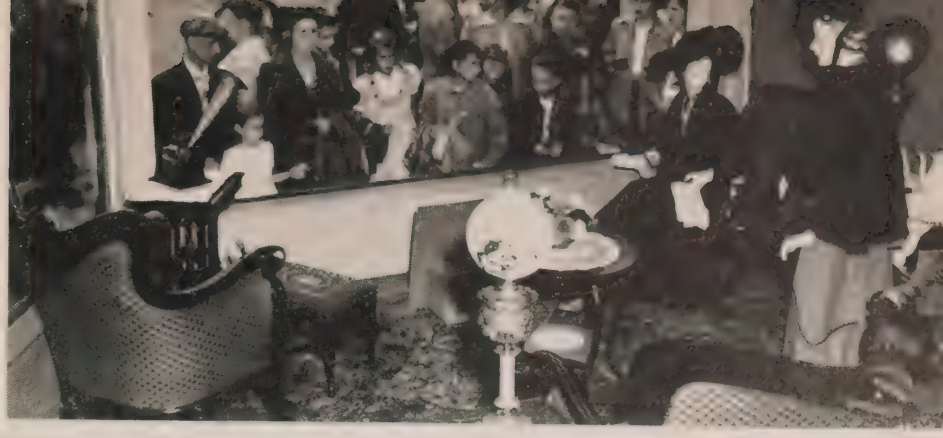
Colorful Pageant

In the evening, memories of Fort William's earlier days were recalled and stories in history books came alive in the form of a monster pageant and tableaux presented by the Jubilee Committee of the local Music and Arts Club in the Fort William Gardens. A cast of 450 participated in the colorful extravaganza which held the interest of the capacity crowd for three hours.

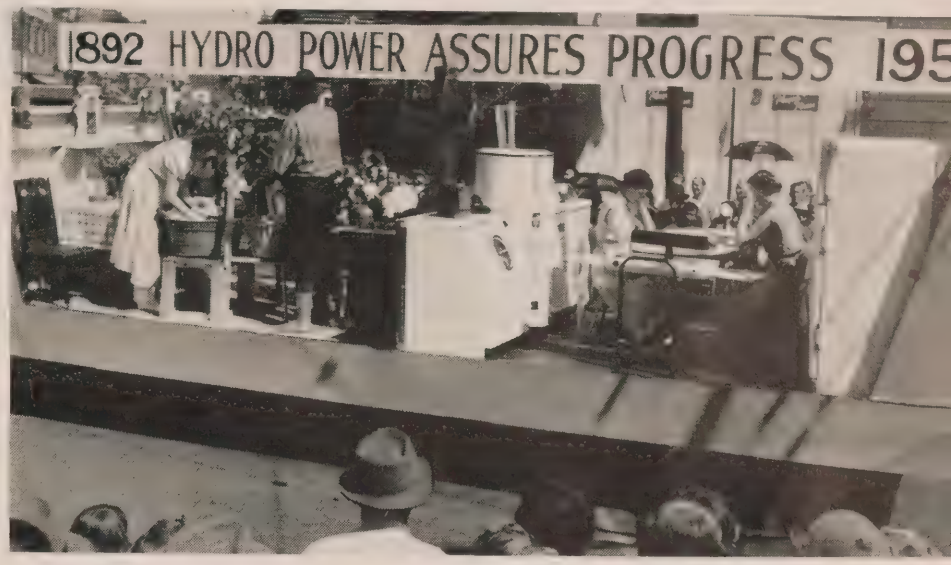
From the beginning—back in 1678 when the Duluth and LaFourette brothers founded Fort Caministigoyan on the banks of the "Kam" river—to the present, the history of Fort William was enacted. A cosmopolitan city, it was fitting that the program should feature distinctive native costumes, songs and folk dances.

As the day came to a conclusion, celebrating three score years of progress and growth since its incorporation as a town in 1892, Fort William, turned its eyes once more to the future—a future which all agreed is indisputably bright.

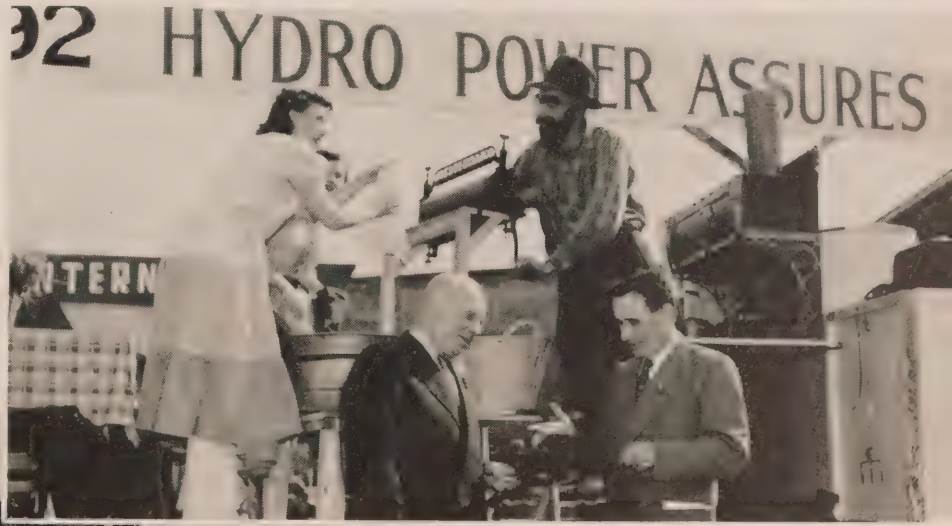
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STORE WINDOWS in Fort William caught the tempo of life sixty years ago with displays of Victorian dress and furniture. An oddity today, these styles were once high fashion.



DRAMATIC CONTRAST between the old and the new fashion in kitchens is emphasized by Hydro employees—Florence Burton, left, Bert Fleming, Marine Flinn, and Helen Pritanski.



A MARCH PAST of veterans followed a simple but impressive dedication service from the steps of the city hall. In the background is shown the Fort William Hydro building.



INSPECTION of an old fashioned grill holds the attention of Mayor Hubert Badanai, right and C. H. Moors, Chairman of the Fort William Hydro Comm.

Maybe You'll Laugh Too!



Standing in a crowded street car, a rather buxom woman was vainly trying to find a token for carfare.

All her pockets had been tightly buttoned as a precaution against pickpockets, and no little commotion resulted.

"Please let me pay for your fare," said the man beside her.

"Nothing of the kind." she replied, continuing the search. "I've got the fare here somewhere."

"I'm sure of it, lady," said the man, "but I'd like to pay your fare. You've unbuttoned my suspenders three times already."

* * *

A girl named Lynn Cox married a guy named Doyle. Now look what she's called . . . Lynn C. Doyle! (That's a slick one! Yuh gotta get up pretty oily to write these kind.)

* * *

The restaurant was crowded and the waiter frowned as he stopped at a table.

"Wassamatter?"

"I think there's a fly in my soup."

"Well, make up your mind. I haven't any time for rumors."

* * *

A woman driving 70 miles an hour noticed a motorcycle cop tailing her and thought she could shake him by speeding up to 80. When she looked again she saw two cops behind her. Suddenly she spotted a gas station and pulled up to a screeching stop in front of it, leaped out and dashed into the room marked "Ladies." When she came out the cops were still there. Without batting an eye the lady said coyly, "I'll bet you thought I wouldn't make it."

"Children," said the teacher, "I want you to write about King Alfred, but don't waste time writing about the burning of the cakes."

One of the essays read: "King Alfred went and knocked on the door of a lonely cottage in a forest and was admitted by a farmer's wife. What happened after that I'm not allowed to say."

* * *

Joe says he has a friend who is always trying to invent something that'll make him rich over night. His latest stunt was to cross his prize hen with a Racing Form in an attempt to get a chicken that will lay odds.

* * *

An inmate of a mental institution was being interviewed to determine his fitness for release. "What do you plan to do when you leave here?" asked the doctor.

"Well," replied the man, "I may study law and become a lawyer, or I may return to my old job as an accountant."

"Then on the other hand," he said after a moment, "I may just be a teakettle."

* * *

Wife to husband who had a few drinks too many: "If it were the first time, Henry, I could forgive you, but you came home like this in November, 1916."

* * *

Sign in Korean barrack — "Drive jeeps carefully. You may hit your own replacement."

* * *

No matter how low the dollar may fall, it will never fall as low as some people stoop to get it.

* * *

It was springtime in England, and the Brooklynite visiting a London park was overwhelmed by the number of sparrows milling about the lawns. He tapped lightly on the shoulder of the Englishman standing next to him.

"Hey, Mac, didja ever see so many boids!"

"My good man," said the Englishman, with a reproachful look, "those are not 'boids.' they're BIRDS."

The Brooklynite scratched his head thoughtfully. "Dat's funny," he mumbled, "dey choips just like boids."

* * *

Two men were making their first trip by air, and at the first stop they noticed a little red truck rolled up to the plane and serviced it. This occurred again at the second and third stop. Late in the afternoon, one of them said to the other, "Gee, this plane is making good time." "Yep," said the other, "and that little red truck ain't doin' bad, either."



"Because he called me a lazy varmint, that's why!"

—COSMOPOLITAN.

FOTO-NEWS



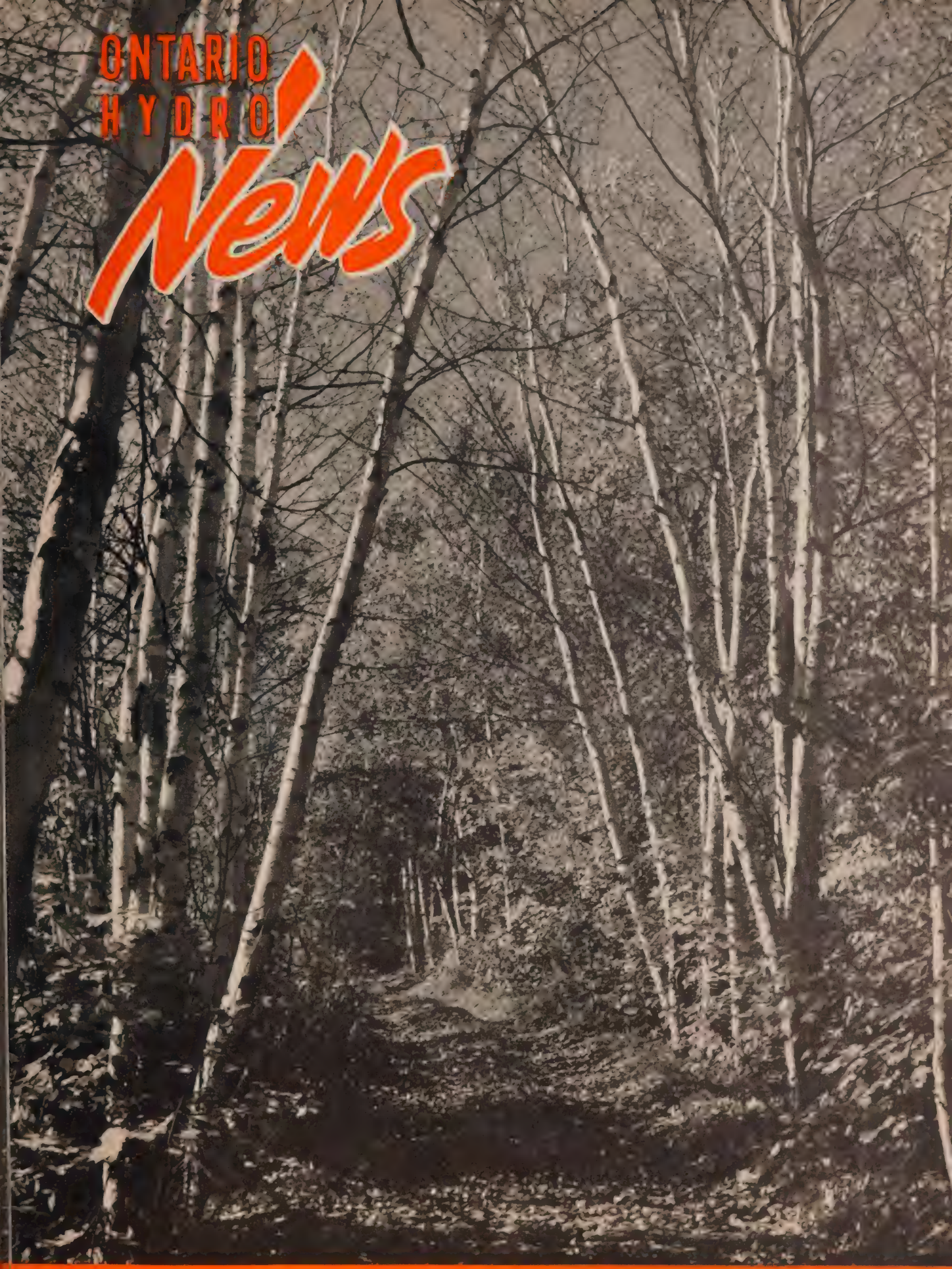
TUNNEL JOB— Frequency standardization crews in the Windsor area have encountered many unusual and challenging jobs since changeover operations got underway in that district. A major feature of the project was the recent installation of three, 7½-ton transformers in the Detroit-Windsor tunnel ventilator building on London Street in Windsor. The three transformers, which replace generators used to convert power from 25 to 60 cycles, will step down 60-cycle power for operation of giant exhaust fans which draw off foul air from the tunnel which links Canada and United States and induct fresh air. The installation job entailed hoisting the transformers to the fourth floor of the building by crane. In the accompanying photo, workmen are shown handling the heavy piece of equipment at the fourth-floor level as they placed blocks to move it into position.



PRESENTS PORTRAIT— Hon. George H. Challies (M.L.A. Grenville-Dundas), First Vice-Chairman, Ontario Hydro, played a prominent role in the recent ceremonies which marked the official opening of the new Morrisburg Public School. Introducing Hon. W. J. Dunlop, Ontario Minister of Education, Mr. Challies first unveiled a framed portrait of Her Majesty, Queen Elizabeth the Second, which he presented to the school. Mr. Challies, shown in the photo on the left beside the portrait, was praised by Chairman Dr. Kenneth A. Blancher for "advice and help freely given" in connection with the building of the town's new institution of primary education.



ONTARIO HYDRO News



VOL. 39 OCTOBER-NOVEMBER, 1952 NUMBERS 10-11

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OCTOBER-NOVEMBER, 1952

VOLUME 39 NUMBERS 10-11

Published by

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

620 University Avenue, Toronto

Not An Accomplished Fact—Yet!

HYDRO Chairman Robert H. Saunders undoubtedly reflected the feelings of the majority of Ontario citizens on October 29, when he publicly declared: "The St. Lawrence has been endorsed—I am the happiest man in Canada tonight."

A few hours previously, the International Joint Commission had made known its approval of the applications of the Governments of Canada and the United States, adding:

"With this approval by the International Joint Commission, the commencement of construction of the power works in the international section of the St. Lawrence River by both applicants, for which Canada has already named The Hydro-Electric Power Commission of Ontario as its 'entity', requires only the naming of an 'entity' by the United States."

This momentous decision has brought the people of this province a step closer to 1,100,000 horsepower of low-cost electricity, and a similar amount for our good neighbours to the south. Canada has already indicated that once final approval is given the power project, it will proceed with an all-Canadian Seaway (the latter is dependent upon the power development for control of water in the locks).

Justifiable as our optimism may be, however, it must be tempered by the fact that there is still much to be accomplished before construction crews can begin this six-year task. Ontario Hydro can build only half the dams and powerhouse required for the development. The "entity" in the United States, as the Joint Commission pointed out, has yet to be indicated.

The Federal Power Commission has scheduled a hearing on the application of the New York State Power Authority, for December 9. Already petitions of protest have been filed by six groups in the United States. Whether they can delay authorization remains to be seen.

Hydro is understandably anxious for an early start on this work. The reasons are obvious when estimated future power loads are studied. By early 1958 it is anticipated that power demands will exceed the Commission's capacity. The alternative to the St. Lawrence is high-priced steam generation and the effect of this has been reflected already in the announcement of an increase in Hydro rates for 1953. The St. Lawrence is a definite objective, therefore, if Hydro is to continue to discharge its responsibility of supplying low-cost power in abundance.

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PHOTO CREDITS

RUSTLING leaves, crisp sunshine and brilliant colors all symbolize the spirit of Autumn depicted by the beautiful Malak photos on the front and back covers of this issue.

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Photo of the Month



Aubrey Falls, Mississagi River

—Department of Lands and Forests Photo

The FACTS about the

RATE INCREASE



(Despite an increase in the wholesale cost of power, effective January 1, 1953, as a result of the increasing use of steam power and rising costs of labor and materials, average domestic rates will be lower than what they were in or prior to 1939.

This fact was emphasized by Hydro Chairman Robert H. Saunders in announcing an increase in the wholesale cost of power over a province-wide CBC network of radio stations on October 29, 1952.

In view of the widespread interest in this subject the text of Mr. Saunders' address on this occasion is reprinted in full below. — The Editor)

IN my last radio report to you on September 23rd, I promised that I would make a special report on future Hydro rates with special reference to the increases necessary on January 1 next.

We, in Ontario, realize, as no other section of the world, the tremendous value of electricity in our homes, on the farm, in the city, our business houses, our institutions, and our factories. We all realize that we get so much for so little. Last Sunday when preparing this report, I called a friend who lives in Toronto. My friend has a very comfortable, but, not luxurious home. I enquired regarding his use of electricity and its cost. In his six-room home he, his wife, three daughters, and one son have three radios, two electric record players, an electric washing machine, one electric clock, an electric grill, an oil-burner with an electric motor, an electric range, an electric cleaner, an electric toaster, an electric iron, an electric food mixer, an electric refrigerator, and he counted 30 electric bulbs to light their home —some, of course, in clusters.

Yes, folks, 15 electric appliances, plus the lighting for his home—seemingly every convenience except an electric water heater—and his October 20 bill for two months from the Toronto Hydro-Electric System amounted to a net of $6.38; for one month $3.19 net, or less than eleven cents per day. We do get so much electrical service and power for so little. Your Hydro has been able to assist in a very substantial way in holding down the high cost of living. We are proud to say that in 1951, the average domestic cost of the kilowatthour in urban centres was 1.039 cents compared with 1.259 cents in 1939—a decrease of 17.47 percent. On the farm, 2.560 cents in 1939; today 1.972 cents—a decrease of 22.97 percent.

Where could you get so much for so little, in spite of the tremendous increase in the cost of every other commodity, and the decrease in the value of the dollar?

Well, folks, the time has come when some of the increases, which we have had to absorb at Hydro, must be passed on. I can assure you, however, that even with this increase, the average domestic costs will be lower than they were in or prior to 1939. This increase, in other words, will not remove the full benefit of the 17.47 percent reduction since 1939. Let me presume a number of questions:

Question 1—**Is an increase a necessity at this time?**

The answer must be a very definite "yes" if we are to maintain our very sound financial position. Our duty is to supply power at cost. Therefore, if costs increase then the price of our power to the municipalities must, of necessity, increase. Just as you and your family find yourselves paying more for your housing, your fuel, your food, and clothing, we at Hydro must pay more for our steel, our copper, lumber, cement, other goods, services, salaries and wages. For example, Hydro wages have more than doubled and, also—

Since 1939	**— Lumber and timber**	**312.4%**
	— Construction material	**146.4%**
	— Cement	**63.4%**
	— Copper	**165.1%**

These increases are reflected in the cost of power and must be reflected in the rates.

Steam Power Greatest Factor

But, the greatest factor of all in forcing an increase is the increasing use of steam power. The proper place for steam in a system such as ours is to cover peak loads only. Unfortunately, loads have been, and still are, increasing to such an extent that during 1953, steam power will, we anticipate, be necessary to carry base load.

As rates were not increased generally in 1952, the present increase is based upon the change in cost from 1951 to 1953. The effect of steam generation in 1953 can be understood when it is realized that whereas, thermal or steam generation represented one percent of the cost of power in 1951, it will represent 24 percent of the cost in 1953.

During 1951 the actual basic cost of the system load we sold was $28.90 per kilowatt. Our studies indicate that during 1953 the cost will be $36.35 per kilowatt, an increase of $7.45.

Compare the 1951 cost with that estimated for 1953 and we find that the adverse factors (increasing cost) total $9.88; the favorable factors (decreasing cost) $2.43, leaving a net increase of $7.45 per kilowatt.

The major item in the adverse (increasing cost) factor column is that of $8.85 for anticipated steam generation.

Coal Expensive

The tremendous additional cost of steam can be understood when we realize that once a hydraulic plant is completed water is the fuel and the only fuel cost is for water rentals at roughly $1.00 per average annual horsepower. Steam needs coal which is highly expensive. The fuel cost (water rental) at Pine Portage to produce an amount of power equal to our average annual domestic use of 3,957 kilowatthours—is 75 cents, whereas the fuel cost for the same energy at the Richard L. Hearn steam plant is $14.02 for 1.65 tons of coal. Yes, hydraulic—75 cents for fuel; steam—$14.02 for fuel.

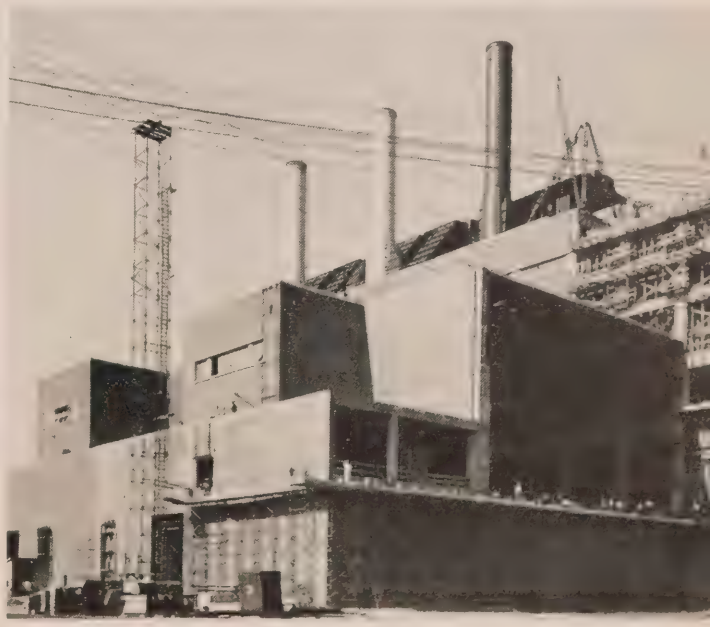
It is anticipated that our steam costs in 1953 will total $24,648,000 compared with cost of hydraulic and purchase of power amounting to $40,153,000. Other costs, $36,139,000.

Question 2—**Must the additional cost of steam power be borne by all sections of the Province?**

All sections which receive the benefits of, and the protection provided by steam generation must share the additional cost. Our lines in Southern Ontario and, in fact, into the North eastern Division are connected. The steam plants at Windsor

(Continued on page 4)





MOUNTING USE of steam-generated power from the Richard L. Hearn Generating Station in Toronto (above) and the J. Clark Keith station at Windsor (below) is the prime factor necessitating rate increase.

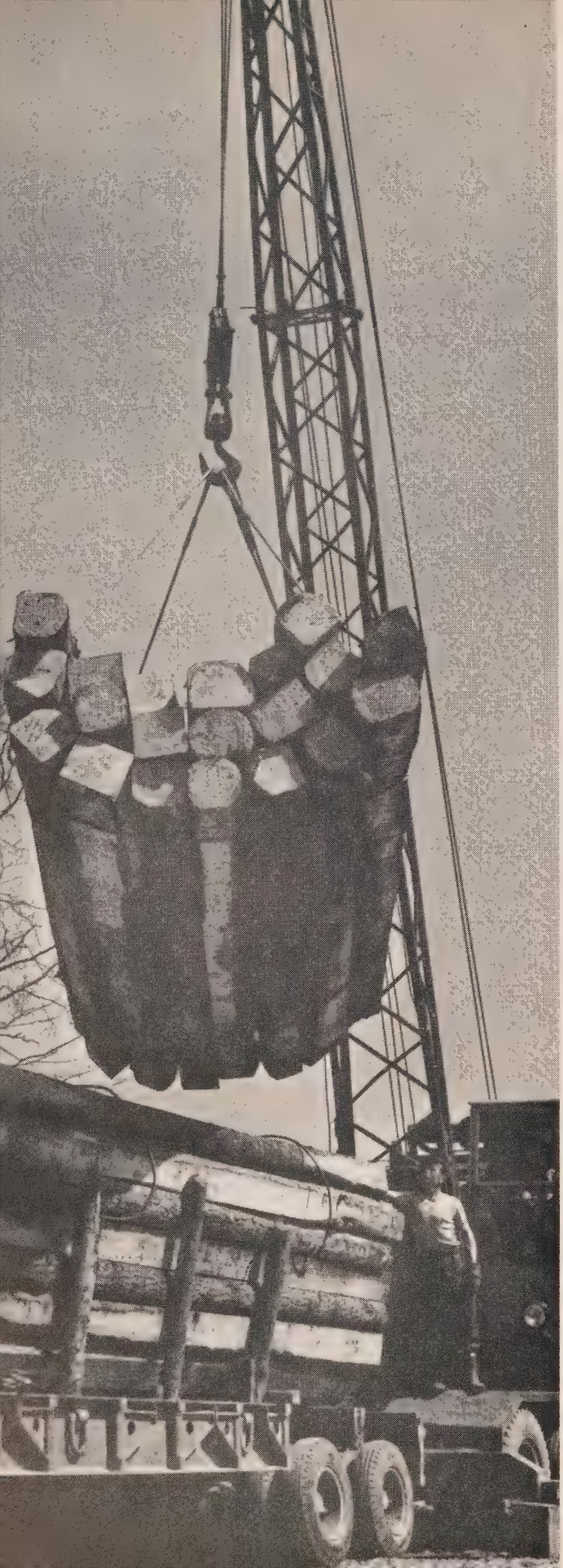
CHIEF FACTORS BEHIND THE INCREASE

- Increasing use of steam power and the much higher cost of producing this type of power:

  Thermal or steam generation represented one percent of the cost of power in 1951. It will represent 24 percent of the cost in 1953. During 1951 the actual basic cost of the system load was $28.90 per kilowatt. Studies indicate that during 1953 the cost will be $36.35 per kilowatt, an increase of $7.45.

- Increasing cost of steel, copper, lumber, cement, other goods, services, salaries and wages.

  Since 1939, Hydro wages have more than doubled; lumber and timber costs have increased 312.4%; construction materials, 146.4%; cement, 63.4%, and copper, 165.1 .



PRICES of lumber and timber used by Hydro in its expansion program have increased 312.4 percent since 1939.

(Continued from page 3)

and Toronto give equal assistance and protection to all centres in these areas—not only to Windsor and Toronto. All, therefore, must share the extra cost.

Question 3—**Will the increase apply to the whole province?**

It is anticipated that the municipal and rural rates will increase throughout—with the exception of the municipalities in the Thunder Bay section. I shall report on rural rates within the next few weeks. Regarding Thunder Bay—the wholesale rates in the municipalities of Fort William, Port Arthur and the other four cost municipalities in this section will remain unchanged because their power resources are entirely hydraulic. The present rates have been adequate to carry the reserve of generating capacity. This reserve, will, we believe, be reduced by increasing demands during 1953, and the added revenues will have the effect of offsetting increases in cost by rising wages, prices and interest rates.

Question 4—**Will the increase apply in equal manner in the Southern Ontario section?**

NO. The increase in the Georgian Bay and Eastern divisions will be substantially less on the average, than in the Niagara Division (or the old 25-cycle area), because firstly—these divisions are already supplied with 60-cycle power and, therefore, no levy is necessary to provide for the cost of Frequency Standardization; secondly—the rates paid by the municipalities in these two divisions in 1951 and 1952 were sufficient to provide a fund for the partial stabilization of rates in 1953. This fund will be drawn upon to offset partially the rising elements of costs.

Question 5—**Will the increase apply equally in every municipality in the 60-cycle or 25-cycle areas?**

NO. In 1951 the margin between actual cost and the prevailing interim rate varied quite substantially between municipalities—in some cases amounting to only a few cents and in others, several dollars. In changing the rate for 1953, the opportunity is being taken to equalize this differential and this,

Hydro Rate Increase

(Editorial in the Toronto Daily Star)

ON the heels of an announcement that the International Joint Commission has approved Hydro installations by Canada on the St. Lawrence river comes the news that big business interests in the United States have imposed a rate increase of an average 14.8 per cent. on Southern Ontario Hydro users; 11.6 per cent. in Toronto.

That, of course, is not the way the thing is officially stated. The rate increase is directly imposed by the Ontario Hydro. But it is made necessary chiefly by the amount of costly steam-generated electricity which the commission has had to secure in order to meet increased demands. And that, in turn, is due to delay in getting the St. Lawrence scheme started; a delay which is attributable to the long and successful fight against joint Canada-United States St. Lawrence development which has been waged by big business interests in the eastern states. By 1953 steam-generated power will be responsible for nearly one-quarter of the Hydro's power costs. Conversion to 60 cycles is also an element in the rate increases in some districts.

of course, leads to an increase, in some cases, of as high as 22.75 percent where the margin was formerly small, while in many cases there will be a reduction in the interim rate. The margin between the anticipated cost and the interim rate has been set at a very small figure—75 cents per kilowatt in the Niagara Division, and 50 cents in the 60-cycle divisions—which will mean that any unforeseen increase in interest rates or wage and price escalation will mean 13th bills to the municipalities for 1953. In other words, the municipalities should bear in mind the fact that *if costs are 2 percent higher than anticipated, 13th bills will ensue.*

AND NOW, TO THE IMPORTANT QUESTION—

Question 6—**What is the percentage increase?**

The increase in interim wholesale rates to Hydro municipalities in the Southern Ontario System (that part of Ontario lying roughly south of North Bay) will be, on the average 14.8 percent effective January 1, 1953.

Question 7—**Will this increase in wholesale rates necessitate an increase to the municipal customers, for example, to the domestic users?**

Under the new schedule of rates, different muncipalities will be affected in different ways. A letter to the local municipal commissions has been mailed out, setting forth the new interim rates. If it is necessary for individual customers to pay increased rates, it will be announced in due course by the local systems after examination of their operating costs and revenues by both their own and Ontario Hydro officials.

Realizing the importance of this question, and in an endeavour to provide an answer, I requested our Comptroller and Consumer Service Division to make a calculation of the effect the proposed increase would have on the retail rates in Southern Ontario municipalities. This study, based upon the latest available figures, generally the first 5 to 9 months of 1952, was made on the assumption that there would be no increase in local costs of distribution, and also on the assumption that any available excess margin in the present rate (except a buffer of 5 percent) would be utilized first to cover the increase in the cost of power.

On these assumptions the study indicated that out of the 311 municipalities in the Southern Ontario System:
in 184 municipalities—no increase in retail rates is necessary;
in 21 municipalities—an increase of under 5 percent;
in 54 municipalities—an increase of from 5 to 10 percent;
in 34 municipalities—an increase of from 11 to 15 percent, and
in 18 municipalities—an increase of over 15 percent.

For example Toronto, on the above assumptions, would require an increase of 11.06 percent in retail rates. Note: my friend whom I mentioned at the beginning of the broadcast with 15 appliances (but no water heater) plus lights for his 6-room house would find his bill increased from a net of $3.19 to $3.54 per month; an increase of 35 cents per month — less than the cost of a package of cigarettes ! !

On the above assumptions Ottawa, we estimate, would not require an increase in retail rates.

Still Lower Than 1939 Rate

Well, folks, it is gratifying to realize that since 1939 the average domestic rate in the urban municipalities of this Province has decreased by 17.47 percent. As I said a few moments ago, our average increase is 14.8 percent. When it is realized that this 14.8 percent applies only to 69 percent of the municipal costs, one can appreciate that the present increase comes far, far short of removing the decrease of 17.47 percent since 1939; and so we can say, without question, that even with this increase, the average domestic rates will be lower than what they were in or prior to 1939.

It is also of interest to realize that if we had St. Lawrence power in 1953 to replace steam, the average increase would be only 4.2 percent instead of 14.8 percent. Is it any wonder that we are fighting for and will continue to fight for the St. Lawrence?

Regarding rural — throughout the Province we anticipate an increase. Our studies assure us that this increase will average less than 15 percent — I shall report on rural rates at a later date.

The New Power Rates

(Editorial in the Toronto Globe and Mail)

THE rate increase for electricity in Ontario, announced by Hydro Chairman Robert Saunders yesterday, is scarcely a surprise to the fortunate residents of this province. In relation to the increase in the price of almost all other commodities, the price of electricity has risen very little. But so greatly has the cost of producing and distributing electricity gone up that higher rates have been inevitable for some time. Mr. Saunders made this clear last summer, when he forecast higher rates for 1953.

The chief cause of the increase at this time is the extraordinary rise in the use of steam-generated power. It is amazing that our power needs have grown so fast that it has been necessary to produce by this means nearly a quarter of all we use in the short period of two years. Frequency changing has also been more expensive than was originally estimated, due to the general rise in prices and costs since the war. Nevertheless, the eventual benefits of this change will very greatly offset the expense. Construction costs in the huge program Hydro has been pursuing since the war are also an important factor.

It is, perhaps, too soon to consider what might be the situation when the new Niagara plants are brought into operation. If they could lighten the burden on steam generation, it is possible that the rates could be cut back again. That is one of the primary advantages of selling power at cost. But to count on this would be very unwise, in view of the incredible growth in the demand for power since the war. We will, as Mr. Saunders has frequently said, be very fortunate if we can get the St. Lawrence power in time to prevent a grave shortage by the end of this decade.

At the last regular session of the Legislature, it was stated that between 1945 and 1951, the Ontario Hydro-Electric Power Commission had approved a total program for generation, transmission and transformation facilities, costing over $965 million. By the end of last year, nearly $650 million of this had been spent. Since then, the sights have been raised much higher, and just beyond the present horizon is the vast St. Lawrence power project, which is to cost $450 million itself. All these have to be paid for.

There are still many great power sites which might be developed, and no doubt they will be in good time. Canadians are blest beyond almost any other country on earth with the natural facilities for hydro-electric power. Our potential generative capacity is far in excess of what the United States can hope for. It is very largely because of our abundant electricity that our productive capacity is so great in relation to our numbers. Even with the new Ontario rates, the cost of our power per unit will still be one of the lowest in the world.

Good News for Thunder Bay

Chairman Robert H. Saunders Assures District 3 O.M.E.A. Delegates There Will be no Rate Increase in Northwestern Ontario During 1953 At Least





REGISTRATION found Bert Wager, Harry Nymark and Mayor C. J. Wright, Dryden, and Mayor Wm. Fuller, Sioux Lookout, "forking over" their fees to Sec'y-Treas. Ralph Chandler, Mgr., Port Arthur Public Utilities Comm.

MUNICIPALITIES in the Thunder Bay District received good news from Hydro Chairman Robert H. Saunders when he addressed delegates at the annual District 3 O.M.E.A. Convention recently.

Unlike Southern Ontario, it is anticipated there will be no increase in rates in that section of the province in 1953, Mr. Saunders assured his audience during a luncheon speech in the Hotel Terrace Bay, near Schreiber, locale of this year's meeting.

Regarded as the largest convention in the history of District 3, the meeting attracted approximately 100 representatives from Port Arthur, Fort William, Dryden, Kenora, Fort Frances, Sioux Lookout, Geraldton, Nipigon, Terrace Bay, as well as many points in Southern Ontario.

Hydro's Role

During his address, the Hydro Chairman referred proudly to the role which Hydro had been privileged to play in Ontario's great wave of prosperity, and to the Commission's sweeping program of expansion.

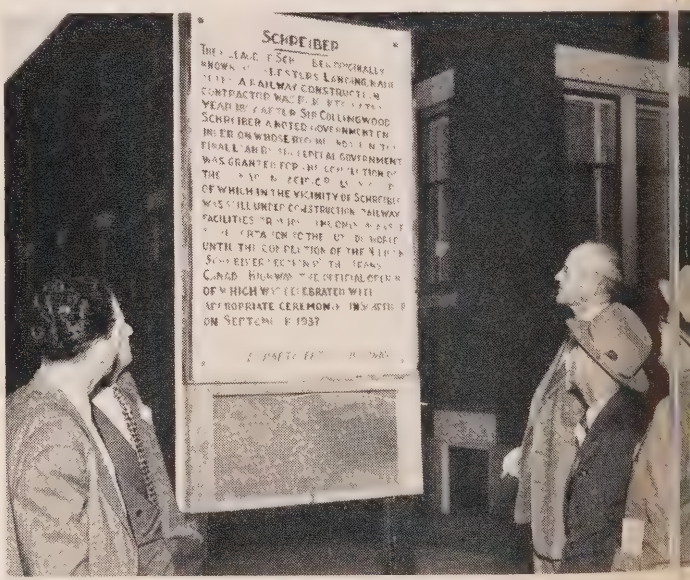
The speaker assured his audience that no section of the province would be neglected or overlooked by Ontario Hydro in discharging its primary responsibility of supplying low-cost power.

In this connection he mentioned the fact that the commission had authorized

(Continued on page 8)



"THERE'S AGUASABON!" A. W. Manby, Hydro's Assist. Gen. Mgr.—Administration tells Delegates R. H. Martindale, Sudbury, J. W. Peart, St. Thomas, A. W. Taber, Fort William, and Norman Douglas, Smiths Falls, as he points to large Thunder Bay District relief map in the lobby of Hotel Terrace Bay.



OUTSIDE Schreiber's Town Hall, scene of this year's District 3 Convention, these delegates, including E. A. Vigars, Port Arthur, W. Ross Strike, Second Vice-Chairman, Ontario Hydro, with J. V. Fregeau and Fred Greenslade, of Kenora, examine a large signboard which presented a short history of this northern municipality.

DELEGATES WERE IN A JOCULAR MOOD AS THEY EMERGED FROM LUNCHEON AT HOTEL TERRACE BAY

HIGHLIGHTS of the convention were visits of inspection to Longlac Pulp and Paper Mill at Terrace Bay and Hydro's nearby Aguasabon Generating Station where this group of delegates stopped to examine the "innards" of a governor in this important Lake Superior plant.



★

REEVE F. B. KELLY receives hearty applause from District 3 delegates as he extends an official welcome from the citizens of Schreiber.



DISTRICT NO. 3
O.M.E.A
CONVENTION



FEATURE of the business session at this year's convention was the election of the 1952-53 slate of officers, front row, left to right, Mayor C. J. Wright, Dryden, J. O. Booth, Fort William, Executive Committee; Mayor William Fuller, Sioux Lookout, President; J. D. Phillips, Schreiber, Vice-President, and Norman McLennan, Executive member. Standing, R. B. Chandler, Past Secretary-Treasurer, and Sam Ashton, Immed. Past President, both of Port Arthur. Next year's Dist. 3 convention will be held at Dryden.



REGISTERING full approval of Schreiber's hospitality were these two Fort William delegates, C. H. Moors, Chairman, Fort Wm. Hydro Comm. and member of Ont. Hydro's Advisory Council, and Acting Mayor Alex Anderson.

installation of a third unit at the Pine Portage Generating Station on the Nipigon River.

"This new unit must be in operation by 1954 to meet the anticipated demands of this region," he said.

Rate Problem

Turning to the question of power contracts with pulp and paper companies in Northwestern Ontario, Mr. Saunders stated it was the Commission's desire to have these rates in line with actual cost at all times. He gave assurance that these contracts would be reviewed before a new contract was signed.

"I hasten to point out to any municipality that they are welcome to take over the contract of supplying power to these mills if they so desire. We will give them the opportunity of doing so before we sign any new contract," he said.

Atomic Power

W. Ross Strike, Q.C., Second Vice-Chairman, also was a featured speaker on the convention program. He created considerable interest with his announcement that atomic-generated electricity within the next 10 years "is quite within the realm of possibility."

His authority for this statement, he pointed out, was Dr. Richard L. Hearn, Ontario Hydro's General Manager and Chief Engineer, who is also a Director of Atomic Energy of Canada Ltd., the Crown company which now administers Canada's atomic research.

Although the possibility of generating electricity by nuclear energy "by pilot plants, at least," was approaching a reality, Mr. Strike stressed the fact that atomic energy would never replace hydro-electric plants as a source of low-cost power.

"The completion of our new Niagara project, and the St. Lawrence development is still of paramount importance and our immediate objective," he stated, "and after these we hope sufficient pro-

(Continued on page 21)

HYDRO *Home Forum*

by Edithemma Dighton
Hydro Home Economist



—Dairy Foods Service Bureau Photo

Brisk winds and swirling leaves tend to make us appreciate our homes these days, so let's consider the idea of redecorating drab rooms.

Have you ever thought of treating your kitchen to color? If you use color wisely, you can work wonders in brightening up a gloomy room. By the way, we have a limited supply of paint samples used in the Hydro Kitchen Exhibit at this year's C.N.E.

Avoid having equal quantities of each color in the kitchen. For instance, if you should decide to use three colors, choose one main color and use the other two sparingly.

The floor and walls are the largest areas and their colors will determine the feeling in the room.

Shun the weak, spotty effect caused by little patches of color. For instance, it is not good practice to outline door panels or parts of chairs, or to use small transfers on doors or chairs.

Use a soft, light color on the walls to make the room bright and spacious. Paint the ceilings white or a pale tone of the wall color.

Good lighting adds to and brings out the beauty of a kitchen. By providing sufficient light, work is accomplished more easily and fatigue is lessened.

The ceiling light should be diffused by a shade or globe and there should be a wall switch for this light at each entrance to the kitchen.

Auxiliary light eliminates working in shadows. It can be provided by a recessed fixture over the sink, a fluorescent lamp behind a valance, an adjustable cone fixture, or lumilines under the wall cabinets concealed by valance.

A ventilating fan is important in reducing steaming of windows and doors, as well as removing food and other odors, and keeping them from the other parts of the house. As a rule, a slow-speed fan, while more expensive, is much quieter than a fan of higher speed. Mount an exhaust fan in the wall or upper part of the window, avoiding a duct if possible.

Fritters may be greasy critters! If you put too many pieces in the hot fat at one time they will become saturated with grease. Then too, there'll be a lot of bubbling.

Pinfeathers of that turkey are pesky things to remove. But here's a tip! If, after the bird is singed, you still find some, wring towels out of hot water and place on bird for 15 minutes. Then pull the pinfeathers out with ease.

MOCHA WALNUT PUDDING

- 3 tbsps. butter
- ⅔ cup brown sugar
- 1 egg, beaten
- 2 cups flour, sifted
- 4 tsps. baking powder
- ¼ tsp. salt
- ½ cup evaporated milk
- ½ cup strong coffee
- 2 squares chocolate
- 1 tsp. vanilla
- ¼ cup walnuts

Cream butter and sugar. Add egg. Sift flour, baking powder and salt together. Then add to butter mixture alternately with milk and coffee. Stir in melted unsweetened chocolate and vanilla. Fill a 2 quart mould ⅔ full. Cover with wet parchment. Steam large pudding 1 hour or custard cups about 30 minutes. Serve with custard sauce. Sprinkle with walnuts.

Cookie sheets and biscuit pans must not fit the oven shelves. At least an inch of space on all sides of the cookie sheet will give better baking results.

Improvement in dishwashing has evolved slowly. Now a plastic coffee measuring spoon is used for ladling out the detergent and we notice that the dishes do not streak when left to air dry. We must admit that the only way to polish up the silver is by using elbow grease and towel.

That extra wastepaper basket may be put to better use in the cleaning cup board, for storing paper bags and wrapping paper. You can remove that stack from behind the bread box now!

Sorting clothes for washing is the time to turn cuffs and pockets inside out and brush, then give each piece a casual going over for stains that might be "set in" by soapy water.

Literally speaking, the best way of treating clothespins that freeze on the clothes is a strong solution of salty water. Soak them in brine before using.

To bring you up-to-date on drying clothes in the electric dryer would fill another page. We have found that 8 lbs. of cottons can be dried thoroughly in 40 minutes.

Taking Old Sol's Measure

Ontario Hydro's new "illuminometer" which records daylight intensity expected to play important role in system load forecasting

by W. B. Prentice

THE sun has been shining on this old world for many millions of years, but it never seemed important to be able to record the amount of light for each and every day—until the last decade or so!

Located on the roof of Ontario Hydro's Head Office at 620 University Avenue in Toronto—tucked away in a corner—is a little box about the size of a portable radio, which tells Hydro's engineers the amount of light delivered to the Toronto area.

Two In Operation

The little box, an "illuminometer"—as Hedley F. Davidson, Illuminating Section of Hydro's Research Division named it—is expected to play an important part in helping Ontario Hydro anticipate its system loads. An identical "illuminometer" is also in operation at the two-storey office of the Department of Transport Meteorological Office at Malton, working in conjunction with the one at Hydro's Head Office.

The importance of this little box is easily understood when it is realized that the amount of power needed varies, due to weather conditions, as much as five percent of the entire system peak load, which could amount to almost the output of a generating station the size of Chenaux G. S. on the Ottawa River.

Unpredictable Weather

The system load of a utility can be divided into the base load and the weather component. In predicting day-to-day loads it is necessary to have reliable forecasts of weather conditions and to know their effect on the load in order to arrive at a reliable estimate of the anticipated load. This latter problem can be a tricky one, with weather extremely unpredictable on many occasions.

With Ontario's power needs mounting each year it has become necessary to turn to steam-produced energy. This trend makes the ability to predict accurately the amount of light of even greater importance.



AN EYE ON THE WEATHER! Hedley F. Davidson, right, Hydro's Research Division, with John Dobson, Operations Division, checks "Illuminometer" on the roof of Commission's Head Office in Toronto which measures daylight intensity in gathering data for system load forecasts.

Load Forecasts

The effect of the weather on day-to-day load predictions is chiefly due to temperature, wind and light intensity. Weather bureaus, under the direction of the now well-known and much-satirized "weatherman," have been making forecasts of temperature and wind for many years.

Weather forecasts give little indication of the level of daylight illumination to be expected, and it is only in recent years that attempts have been made to correlate sky conditions and daylight intensity.

Measurement in Footcandles

After discussions with the Malton "Weather" Office, it was agreed that the first need was the construction of a daylight recording meter in order to obtain records of daylight intensity. Consequently, early in 1951, the unit was installed and since that time it has kept track of the amount of light in the Toronto area. The measurement, in



footcandles, is taken from horizon to horizon.

Forecast Daylight Intensity

From records now being kept it is hoped that data can be obtained which will make it possible to forecast daylight intensity for the next day.

However, the method of recording data has varied with different utilities in the United States. Light-sensitive elements have been used to measure the illumination produced by exposure to the north sky only, by exposure to the horizon only, and by exposure to the complete sky from horizon to zenith.

From the experience of the utilities using the various methods, the most satisfactory appeared to be the measurement of the illumination on a horizontal plane from the whole sky, including sunlight. Such a device has been developed by the United States Weather Bureau and has been successfully used in about five locations in the U.S. for the last few years. From these observations it was decided to pattern Hydro's daylight "illuminometers" after the U.S. Weather Bureau design.

Although Ontario is extremely fortunate in having a majority of electric power produced by hydraulic method, United States electrical utilities have just the opposite situation. Across the border, approximately 70.85 percent of the power is produced by steam generating stations. In addition to the added cost factor, steam is extremely difficult to handle. While a hydraulic generating station can close off a penstock and thus reduce output, it is a costly procedure to ready a steam station for immediate operation. A two percent error in load estimate could result in a loss of hundreds of dollars a day due to scheduling high-cost equipment which would not be required to carry the load and provide reserve.

Insufficient Capacity

On the other hand, should insufficient capacity be scheduled in a steam station, due to low estimate, and a breakdown should occur, it would become necessary to reduce voltage or to interrupt a portion of the load for several hours until additional capacity had been put on the line.

Accurate load forecasting, on a day-to-day basis, results in economical and reliable operation of electrical utility systems, whether it be a steam system or hydraulic, although with steam, of course, it is of greater importance. Analysis of peak loads by segregating the weather component and arriving at a base load, which is a more constant load value, will indicate a change in business conditions when the base load varies.

Capacity installation requirements, which involve large expenditures of money, are based on annual peak load estimates. When the weather component is deducted from annual peaks, more accurate estimating of customer demands is obtainable.

Temperature and wind velocity also have their effect on load forecasts. The temperature effect on the system load may vary from one to two percent for each five degrees change in temperature, depending on the time of day. Wind velocity increases the radiation from heating devices to some extent. In some companies, for load estimating purposes, a two-percent correction is applied to the base load for each increase of five miles in wind velocity.

From all these variables comes a good many headaches. So if Power Supervisors are seen tearing their hair occasionally, they may be venting their wrath on the unpredictable factors that arise from time to time in forecasting the weather.



VARIATIONS in light intensity are recorded on chart in Power Supervisors' Room at Head Office. Mr. Davidson, left, and Victor Wilson, Operations Division, study the graph.

"GEORGIAN BAY" EXPANDS

Ontario and municipal Hydro representatives are featured speakers at Georgian Bay O.M.E.A. annual convention



STEADY AS SHE GOES is the order of Captain Eric Wasley, to Mrs. Jean Gwilliam.





NOT THE CAT, but the agenda for the morning session is pulled out of the bag by Secretary Robert Butter. Speakers on the program included Alex McLinden, Owen Sound, left; and Wm. Lane, Collingood, right.

MAKING A POINT to local press representative, Hugh Clairmont, is J. R. Montague. C. E. Crease Georgian Bay Region, stands ready and willing to collaborate.





NEW PRESIDENT H. G. Robertson, Barrie, is congratulated by Hon. President, W. E. Theaker, Paisley, left. Other executive members are front: Robert Butter, Owen Sound, Secretary-Treasurer; Mr. Theaker; Mr. Robertson. Back, l-r: Auburn Wright, Erin; C. J. Halliday, Chesley; Col. A. A. Kennedy, 1st Vice-Pres.; Joseph Bull, Collingwood, Second Vice-President; L. C. Vincent, Gravenhurst, and Jack Low, Uxbridge.

BARRING contingencies, no major power cuts are expected during the heavy load period of the next few months, A. W. Manby, Assistant General Manager-Administration, Ontario Hydro, announced during a brief address at the recent Georgian Bay District O.M.E.A. Convention.

Other Ontario Hydro speakers at the annual meeting held at Muskoka Beach Inn, Gravenhurst, included W. Ross Strike, Q.C., Second Vice-Chairman; M. J. McHenry, Director of Consumer Service, and J. R. Montague, Director of Engineering.

Highlight of the meeting was the election of officers with H. G. Robertson, Chairman of Barrie Public Utilities Commission, assuming the President's chair for the ensuing year.

Other members of the new executive are: Hon. President, W. E. Theaker, Paisley; 1st Vice-President, Lt.-Col. A. A. Kennedy, Owen Sound; 2nd Vice-President, Joseph Bull, Collingwood; Secretary-Treasurer, Robert Butter, Owen Sound; Directors: C. J. Halliday, Chesley; Wm. J. Cross, Hanover; R. S. King, Midland; A. T. Smith, North Bay; L. C. Vincent, Gravenhurst; Auburn Wright, Erin, and John Low, Uxbridge.

In dealing with the power situation, Mr. Manby presented a comprehensive review of new power resources. He also reported progress in connection with Hydro's frequency standardization and rural programs. Equipment and appliances of some 225,000 customers, with a total consumption of approximately 480,000 kilowatts during the December peak, had been changed over for operation at 60 cycles while the 60-cycle load showed an increase ranging between 35 and 40 percent over last year, he said.

Plan Expansion In Advance

Mr. Strike stressed the increasing power

(Continued on next page)



ABOARD the R.M.S. Sagamo, Chas. Musgrave veteran Muskoka Lakes entertainer, recounts its history to: Walter Dixon, Arthur, left; F. H. Plant, Ottawa, and D. P. Cliff, Dundas.



MUSKOKA'S GRANITE hills provide background for this sextet standing on Muskoka Wharf. Left to right—Mr. and Mrs. Albert Hamilton, Forest Hill Hydro-Elec. Commission, with Mr. and Mrs. C. W. Johnston, and Mr. and Mrs. Thomas Sherk, all of Toronto.

demands that Ontario public utilities will face during the next few years, urging local commissions to plan for expansion of their facilities, well in advance, to keep pace with the rapid population and industrial growth of the province. He also emphasized the importance of good public relations and close contact between labor and management.

M. J. McHenry told delegates that municipal systems would benefit through the work of the recently-established Rate Study Department, headed by A. W. Murdock, who was working in co-operation with the A.M.E.U. Rates Committee.

Delegates attending the morning session heard J. R. Montague describe load growth in the Georgian Bay Region since 1945 as "phenomenal!"

"In that period, the load has increased 134 percent, which is well above the Ontario average," he said.

The speaker pointed out that the peak load for this region occurred during the summer months rather than in the winter. This, he said, was an important factor in balancing the overall load of the Southern Ontario System.

Looking ahead to further load growth, Mr. Montague pointed out that the output of power plants in that district would be insufficient to meet the demand. On the other hand, he said the Georgian Bay Region is particularly well-situated in relation to the Commission's 230,000-volt transmission system, which includes power supplied by large plants on the Ottawa and Niagara Rivers, as well as steam-electric plants in Toronto and Windsor.

Economically Feasible

Turning to the question of developing the resources of small hydro-electric sites in the Georgian Bay Region, he said these sources had, in the past, not been considered economical. Unprecedented demands for power, he explained, had, however, necessitated the introduction of costly steam-generated power. Thus, the development of hydro-electric power at small plants, designed for unattended

(Continued on page 21)



LUNCHEON SPEAKER was Rev. K. C. Bolton, Walkerton, standing. Although the camera has caught him in a serious moment, his talk sparkled with humor. Among the head table guests were: L. C. Vincent and Mayor R. C. Vincent, Gravenhurst; Col. A. A. Kennedy, Owen Sound P.U.C., and W. E. Theaker, Paisley, Hydro-Elec. Comm.

CONVENTION BUTTON of Gordon Fuller, Windsor, receives attention from A. W. Manby, Assist. Gen. Mgr.—Admin., right, and M. J. McHenry, Dir. of Consumer Service.



Engineering Scholarships

WRITING in a recent issue of the Toronto *Saturday Night*, K. F. Tupper, Dean of Engineering, University of Toronto, made some interesting observations anent the present and future status of Canada's 32,000 professional engineers.

In view of the widespread publicity given to the apparent shortage of engineers in the past year, this article by an active member of the Association of Professional Engineers of Ontario is of particular significance.

Discussing the important technological advances made in Canada in recent years, Dean Tupper points to the inauguration of television by the C.B.C.; the increasing use and generation of electrical energy; petroleum consumption; the building of new, large industries, and the projected construction of the St. Lawrence Seaway and Power Project as factors which will indirectly influence the demand for professional engineers' services.

Thus, to maintain the present number of engineers in Canada, "about 1,000 new engineers must be found each year," this eminent educationist states, while this figure must exceed 1,000 if Canada is to increase her corps of engineers.

Last year, 1,700 young men completed their engineering courses in Canadian universities, and the estimate for 1953 is 1,450. But, the writer points out, the expansion of the Canadian engineering ranks will not be very rapid from this source alone as it takes about 1,000 new engineers per year to replace losses.

Hope for additional students who are hampered by lack of financial support lies in the establishment of national scholarships Dean Tupper points out, declaring: "Perhaps soon a scheme of national scholarships — as proposed by the Massey Royal Commission — will bring to the universities some brilliant young men and women who are now being lost to us."

Ontario Hydro gave leadership in this direction earlier this year when it announced the award of The Hydro-Electric Power Commission of Ontario Scholarships in Engineering to encourage and assist promising students. In this connection scholarships are being awarded to student engineers of the University of Toronto, and Queen's University at Kingston in each of the second, third and fourth years of an engineering course, based on the final standings of the first, second and third year's work of a student on any engineering course related to the Commission. In addition a scholarship is being awarded annually to the most worthy cadet at the Royal Military College, Kingston, entering his fourth year of the electrical engineering course. The Commission is also sponsoring a scholarship at the Ryerson Institute of Technology, Toronto, which is awarded to an undergraduate in the second year of a three-year course in the Institute's mechanical and industrial technology course.

Winners of this year's awards were as follows: Queen's University—Leonard H. Bartelink, London; George Podolsky, Hamilton, and Ernest R. Corneil, Stamford Centre; University of Toronto—R. K. Ham, Paris; Robert H. Jones, Toronto, and J. C. Vrana, Toronto; Ryerson Institute—Barry C. Miller, Toronto; Royal Military College, Cadet T. S. Colber.

SHORTAGE STILL ACUTE

ALTHOUGH to-date this year the Association of Professional Engineers of Ontario has been accepting members at the rate of four per day, an acute shortage of professional engineers still exists in the province, O. D. Johnston, P.Eng., Association President, states.

Mr. Johnston, who made his report on association activities at the recent quarterly meeting of the 20-man executive council, said the total membership was now 10,684, the largest in association history.

The association admitted 431 new members at the third quarter meeting, for a gain so far this year of 1,149. It was disclosed that 300 applications for membership are still pending.

The council, in an effort to keep pace with the growing volume of new membership applications, authorized an increase in the membership of the examining board which consists of professors from the engineering schools of Queen's and University of Toronto.

"Despite the urgent need for more professional engineers, the Association is not lowering its standards of admission," Mr. Johnston said. "But a larger examining board will speed up the processing of applications," he added. The Association, established under Provincial Statute maintains a strict code of ethics and professional standards.

Mr. Johnston pointed out that the Association's vocational guidance program, directed mainly at high school students, is being carefully planned in an effort to interest promising young people in the profession.

"Enrolment in engineering schools of Canadian universities has increased this year compared to last year, but this improvement will not be reflected in the graduating of young engineers for another four years," Mr. Johnston commented.

He said industry had within its power to "take better advantage of the training and services of the professional engineer."

Some professional engineers are employed in industry in mere routine jobs, rather than in broad-scale engineer planning. Mr. Johnston referred to such cases as "a waste of good engineers" at a time when a shortage exists and qualified professional engineers are required in the development and direction of Canada's industrial economy and defence preparedness.

Of the 431 new members admitted to membership in the Association, it was disclosed that 74 are civil engineers, 53 chemical and metallurgical, 125 electrical, 157 mechanical and 22 mining.

New members in recent months have included some engineers coming from Britain and European countries, but only graduates of recognized engineering schools are admitted to membership.

The annual meeting of the Association will be held in Toronto, January 24. A guest will be B. H. Monckman of St. John's, Newfoundland, President of the Association of Professional Engineers formed in that province since confederation with Canada.

Meterman finds he doesn't have to be part

DIPLOMAT ACROBAT and HANDYMAN

but it helps!

(Reprinted through courtesy of the Sudbury Daily Star)

YOU don't have to be a combination of electrician, diplomat, marathon walker and assault infantryman to be a meter reader in Sudbury—but it helps.

After three years at the job, 21-year-old Jerry Bradley, senior meter reader of the Sudbury Hydro-Electric Commission, doesn't expect much more will happen to him on the job. He doesn't think it can.

Armed with a flashlight and a record book, Bradley has, in three years, covered practically every residence and business block in the city. Other readers come and go, some because the grind is too much for them, and some to take other jobs with the department.

"I stay with it because I like it," Bradley said with a grin. "You meet a lot of nice people."

It's that small minority of Sudburians who are not nice people who provide Bradley, and the five other young men who constitute the meter reading corps, with most of their problems.

There are a few of the downright cranks who never miss a chance to snarl at the meter man.

Sometimes, when their Hydro bill is a little up over a previous month, he is accused of everything from misreading to tampering with the meter.

Never Argue

"We never argue, of course, but we do point out that if a meter is misread one month by mistake, it automatically is compensated for in the next month's reading," Bradley explained. "As for tampering with the meter, all meters are sealed and we can't touch them."

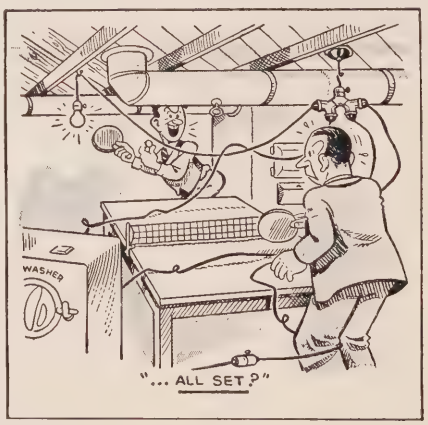
Once in a while a housewife will get upset when the meter man's boots track her floor, but by and large Sudbury women look on the visiting Hydro man with a kindly eye.

Tasks Without Number

In his three years at the job, Bradley has carried out numberless tubs of laundry, given countless expert opinions on the progress of preserve-making and moved multitudes of heavy furniture. While it takes all his time to get in the 180 visits he averages a day, he considers the public relations gestures are well worth while.

It's when housewives enlist his aid for repairing faulty electrical appliances or non-operative plumbing that he draws the line. He suggests that some local craftsman in the appropriate field be called in.

If all the meter man's troubles could be simply stated, they would amount to two things—the placement of meters and the displacement of things people pile on top or in front of them.



"Electric meters are usually in the basement, although in some cases they can be in a bedroom or bathroom," Bradley said. "Water meters can be anywhere, but a favorite spot is under the kitchen sink in a cupboard."

The bedroom ones are easy as a rule, except for the odd embarrassing moment when Bradley finds himself directed to "go right on in" by easy-going members of the family who haven't consulted the bedroom's occupant.

It is the basement meters that give meter-reading a touch of the infantry assault course. People, according to Bradley, seem to display a cheerful ingenuity when it comes to blocking up, covering over, or generally obscuring a meter. When it comes to obstructing the path to the meter, originality really runs high.

Along the top of his scalp, Bradley carries a two-inch scar acquired two years ago, in the line of duty, when he ducked under a low beam in a city basement. He declines to comment on the character who had hung a circular saw blade from the beam.

Another time, groping his way by flashlight through an inky basement, he was suddenly felled by a stunning blow on the side of the head.

"I was scared," he described it. "I thought sure someone had slugged me. Then I saw the garden rake I'd stepped on."

There appears to be a widespread belief that the only possible place to put a coal bin, a pile of lumber, or Aunt Fanny's furniture is on top or in front of



TAKING meter readings from this bank in a large down-town Sudbury theatre is one of Jerry Bradley's easier tasks. More difficult, but, as he points out, more interesting, are readings in the Nickel City's 8,000 homes. On a "good day" the young Sudbury meter reader averages 180 visits. In large blocks he reads from 20 to 80 meters.

the electric meter, Bradley finds. Water meters, on the other hand, can be neatly hidden from the meter man's attentions by a pile of pots and pans, or in extreme cases, a mountain of wet laundry.

With approximately 8,000 dwellings in the city, it's impossible for the meter man to know the position of every meter. He guesses its position from the Hydro lead-in, and the point at which the water main appears to enter the house. Bradley finds a surprising number of householders who don't know where their own meters are located.

There was the incident which happened to another reader who asked directions. The helpful householder opened the basement door, stepped through and promptly dropped from sight. A few lurid moments later he explained that he had taken down the stairway to replace it, and had forgotten for the moment it wasn't there.

Since, in Sudbury, the meter reader's only identification is his record book, he sometimes has difficulty with suspicious home owners.

New Canadians, particularly, tend to take a dim view of a stranger requiring entrance to their property. Bradley, who is no linguist, has discovered that in most of Sudbury's two-and forty European languages, the magic word "electric" brings recognition.

Because devious characters have been known to gain entrance by posing as meter readers, Bradley has a word of advice to householders. If in doubt, ask the meter reader to show his record book. The books are locked in a vault except when being used, and are not likely to fall into unauthorized hands.

Again, watch the date your meter man comes around. His next visit will be in one month, give or take two or three days. And don't fall for the old one about someone "checking" your meter. If the meter needs checking, the meter reader will tell you, and any Hydro man sent around will carry proper identification.

Don't Touch Meters

While on the subject, Bradley added, don't touch your own meter. For one thing, it is sealed and it's a punishable offence to break the seal. For another, there's a very real danger of getting a severe shock when trying to replace blown fuses.

In spite of the meter tamperers, the cranks and the owners of voracious dogs, Bradley thinks Sudburians are pretty fine people.

EASTERN CONCLAVE



IMPORTANCE of adequate wiring in maintaining proper voltage and efficient operation of appliances was shown by this equipment during Electric Service League of Ont. demonstration.



EXECUTIVE MEMBERS of the Eastern Ontario Municipal Electric Association consider plans for coming year. Front row, l. to r.—George Findlay, Carleton Place, E.O.M.E.A. Executive Representative; Dr. R. A. Patterson, Kemptville, Director; E. V. Dyke, Smith Falls, Vice-President; M. J. Elliott, Bowmanville, President; J. G. Baldwin, Lindsay, Vice-President. Back row: C. R. Carveth, Newcastle, Director; and G. E. Chase, Bowmanville, Sec.-Treas. Not shown are: P. C. McGuire, Belleville, Director, and Col. Jas. Harris, Kingston, E.O.M.E.A. Representative.

VITALLY INTERESTED in the problems of E.O.M.E.A. delegates, Hon. George H. Challies, First Vice-Chairman, Ont. Hydro, is shown chatting with Col. James Harris, Kingston; Dr. Richard L. Hearn, General Manager and Chief Engineer, and A. W. Manby, Assist. Gen. Mgr. — Administration, Ont. Hydro.



Public Relations Important

As a publicly-owned utility, Ontario Hydro has a duty to the people of the province in providing them with accurate information about its affairs.

This fact was stressed by Chairman Robert H. Saunders in addressing delegates at the 17th annual convention of the Eastern Ontario Municipal Electric Association in Kemptville Agricultural School. The meeting was attended by some 175 representatives of Eastern Ontario municipalities.

Discussing the importance of public relations in the Commission's operations, Mr. Saunders stated that Hydro used the medium of magazines, newspapers and radio in "reporting" to its shareholders — the citizens of Ontario.

Staff Magazine

In order to foster pride among employees of the Commission, and to promote the realization that they are part of the great Hydro organization, the Commission published a monthly employee magazine—*Ontario Hydro Staff News.*

"If our employees have pride in Hydro and the work they are doing, they can be ambassadors of goodwill for us throughout this whole province," he stated, adding that "one dissatisfied employee can ruin a year's work in public relations or nullify the effect of a year's intelligent advertising."

For the information of the 325 partner municipalities in the great Hydro enterprise, the Commission also published *Ontario Hydro News* each month. These municipalities have a "stake" in the provincial organization with its assets of over $1,100,000,000, the speaker said, and "we believe that they should know what is actually going on in the Hydro family."

Ontario Hydro News was designed originally, to foster closer understanding among the municipalities, and between the municipalities and the Commission proper. Since then it has been broadened out and now goes not only to the Commission and municipal Hydro employees, but it has been made available to newspapers, libraries, Government departments, universities and schools, as well as to individuals who are individual subscribers.

In addition, the Commission serves well over 300,000 rural customers while acting as trustee for the Ontario Government in providing power to mines and pulp and paper mills in Northern Ontario. Hydro also supplies power directly to 203 large industries largely located outside the confines of the larger municipalities.

Use Press and Radio

Therefore, the Commission uses the press and the radio in telling these people, "what we are doing." To amplify and supplement information contained in releases to the press and radio news commentators, the Chairman said he, personally, made periodic reports over the radio and in brochure form.

"The best way I know for an organization to build up confidence," he said, "is just to make sure the shareholders are convinced that it is not holding back information from them."

Thus Hydro was doing everything possible to keep the people of Ontario fully informed at all times in relation to its progress and operations.

"It would have been impossible to have raised some 720 millions by bond issues—620 millions of it right here in Ontario—if the people of this province hadn't had confidence in us."

Construction Progress

Hydro's General Manager and Chief Engineer, Dr. Richard L. Hearn, preceded an illustrated talk on construction progress at Sir Adam Beck-Niagara G.S. No. 2, with a report on the St. Lawrence Development.

Speaking in retrospect, he said that Hydro's active participation in this development began in 1921, when a survey was prepared by Ontario Hydro for the International Joint Commission on the St. Lawrence River, from Montreal to Lake Ontario, so that its waters might be used in the interests of Canada and of the United States for purposes of navigation and of power.

International Joint Commission

This participation was traced up to the present, when under the "forceful leadership" of Chairman Saunders and the Canadian Government, application was made last June to the International Joint Commission to develop the St. Lawrence. Dr. Hearn, referring to the five meetings of the Commission (Toronto, Ogdensburg, Cornwall, Albany, Montreal), which began in July of this year, reported "that nothing discouraging has been said as far as the power development is concerned."

Reporting on construction progress at Niagara, Dr. Hearn pointed to the greater efficiency of modern methods of construction in comparison with equipment used on the original Sir Adam Beck project some 35 years ago.

"We are taking rock out now more cheaply than before," he said. This could be attributed to new equipment, such as the Joy quarrymaster which was self contained and operated by only two men. Other new techniques were saving time too, particularly in blasting.

Delegates were welcomed by Reeve of

(Continued on page 20)



DR. JOHN L. WALSH, Chairman, Perth P.U.C., is presented with prize by Hydro's Second Vice-Chairman, W. Ross Strike for lowest gross score in convention golf tournament.

Ontario Hydro has a duty to people of the province in keeping them "posted" on its activities, Chairman tells E.O.M.E.A. delegates during Kemptville meeting

(Continued from previous page)

Kemptville, W. H. Finnerty, and by M. J. Elliott, President, who was returned to office for another year. Mr. Elliott extended a special welcome to eight new member municipalities and revealed that the total membership was 64 this year.

Words of greeting were extended by Frank Plant, O.M.E.A. President; D. P. Cliff, Secretary-Treasurer, and by Dr. A. M. Barr, Principal of Kemptville Agricultural College. Dr. Barr urged those present to use their influence in the further development of Hydro in rural areas, stressing the fact that Hydro has "been a tremendous advantage to agriculture." Now all the comforts of the city are available to rural areas, he said, which in turn, makes life on the farm more attractive.

Guest Speaker

Following the morning session, which included an address by J. R. Mowat on adequate wiring, luncheon was served in Leslie Hall, Kemptville. Guest speaker was J. Alex Edmison Q.C., Assistant to the Principal of Queen's University, Kingston. He was introduced by Col. Jas. Harris, Kingston, while Dr. R. A. Patterson, Kemptville, extended the vote of thanks.

The afternoon session was featured by a lively question-and-answer period. On hand to answer questions were: W. Ross Strike, Second Vice-Chairman, M. J. McHenry, Director of Consumer Service, as well as E. G. Gurnett, Manager, East Central Region, Ontario Hydro.

Executive for 1952-'53: President M. J. Elliott, Bowmanville; Vice-Presidents, E. V. Dyke, Smith Falls; J. G. Baldwin, Lindsay, and Secretary-Treasurer, G. E. Chase, Bowmanville; Directors: P. C. McGuire, Belleville, and C. R. Carveth, Newcastle, and E.O.M.E.A. representatives on the O.M.E.A. executive: Geo. E. Findlay, Carleton Place, and Col. Jas. Harris, Kingston.

H. W. BOLTON DIES

HAROLD WELLINGTON BOLTON, 44, Chairman of the Norwood Public Utilities Commission, died suddenly at his home recently. Born in Dummer township, Mr. Bolton was a resident of Norwood for nine years where he operated a farm implement agency. He was educated in Douro township, and was a member of Norwood United Church. He is survived by his wife and one daughter, as well as three sisters and three brothers.



BRINGING home the flour is prize winner A. W. Manby, pointing out his lucky club to O.M.E.A. President F. H. Plant, centre, and Secretary-Treasurer D. P. Cliff, of Dundas.



UNAWARE of the camera, F. C. Adsett, H.E.P.C., Belleville, left, and J. G. Baldwin, Lindsay, were "caught" in a conversation.



INHERENT danger of improper fusing from inadequate wiring was demonstrated by J. F. Mowat, Elec. Ser. League of Ont.

"GEORGIAN BAY" EXPANDS

(Continued from page 14)

operation is becoming more attractive.

The convention was officially opened by Chairman W. E. Theaker, following a civic welcome by R. C. Vincent, Mayor of Gravenhurst. Mr. Theaker congratulated Ontario Hydro for "keeping power in constant supply, in spite of steadily increasing demands."

F. H. Plant, President, of the parent O.M.E.A., complimented the Gravenhurst Commission and the local municipal association, crediting such conventions with "bringing about beneficial results to the Hydro family." He also praised the establishment of a district constitution. This was acted upon later by the delegates when they authorized the executive to set up a constitution committee.

Discuss Water Heaters

A short paper on Hydro water heaters was presented by Wm. Salter, General Manager of Barrie P.U.C., while William Lane, Superintendent, Collingwood P.U.C., discussed methods of financing water heater installation, and relations with the public after heaters are installed. A paper by Alex. McLinden of Owen Sound, dealt with troubles that may develop in water heaters and methods of correction.

Referring to domestic installations, Mr. Salter advocated a proper survey of each household's hot water requirements, prior to an installation, so that customer satisfaction was assured. Heat losses due to extra lengths of pipe can be overcome by a strategic placing of the unit near the busiest tap, he said.

Mr. Lane, basing his remarks on the fact that "a satisfied customer is your best advertiser," recommended a small wattage heater with a large tank on a flat rate. This supplied abundant water at a rate which the customer anticipated.

The noon banquet was attended by some 250 delegates and their wives. Guest speaker was Rev. K. C. Bolton, Walkerton, who was introduced by Col. A. A. Kennedy, Owen Sound, and thanked by H. C. Robertson, Barrie.—**By H. B. Wood, Associate Editor.**

STUDY UNDERGROUND SYSTEM

A report on the cost of placing Peterborough's electrical distribution system underground is being prepared by Ross L. Dobbin, General Manager, Peterborough Utilities Commission.



THIS is a proportionate photo of a section of what is claimed to be the largest stranded electrical cable ever fabricated for an overhead transmission line. The cable, over 2¼ inches in diameter, consists of 108 aluminum wires over a core of steel wires. Required for the big new aluminum development of the Aluminum Company of Canada Limited, in British Columbia, this large electrical cable will carry power over a particularly mountainous 10-mile pass section of the 50-mile long power transmission line between the powerhouse at Kemano and the aluminum smelter at Kitimat. The cable will have an ultimate strength of 135,700 pounds.

GOOD NEWS

(Continued from page 8)

gress will have been made in the development of nuclear energy for power purposes that it will become increasingly available."

Constitution Amended

Business sessions were held in the town hall at Schreiber with President Sam Ashton, Port Arthur, in the chair. Reeve F. B. Kelly, of Scheiber, extended official greetings to the delegates.

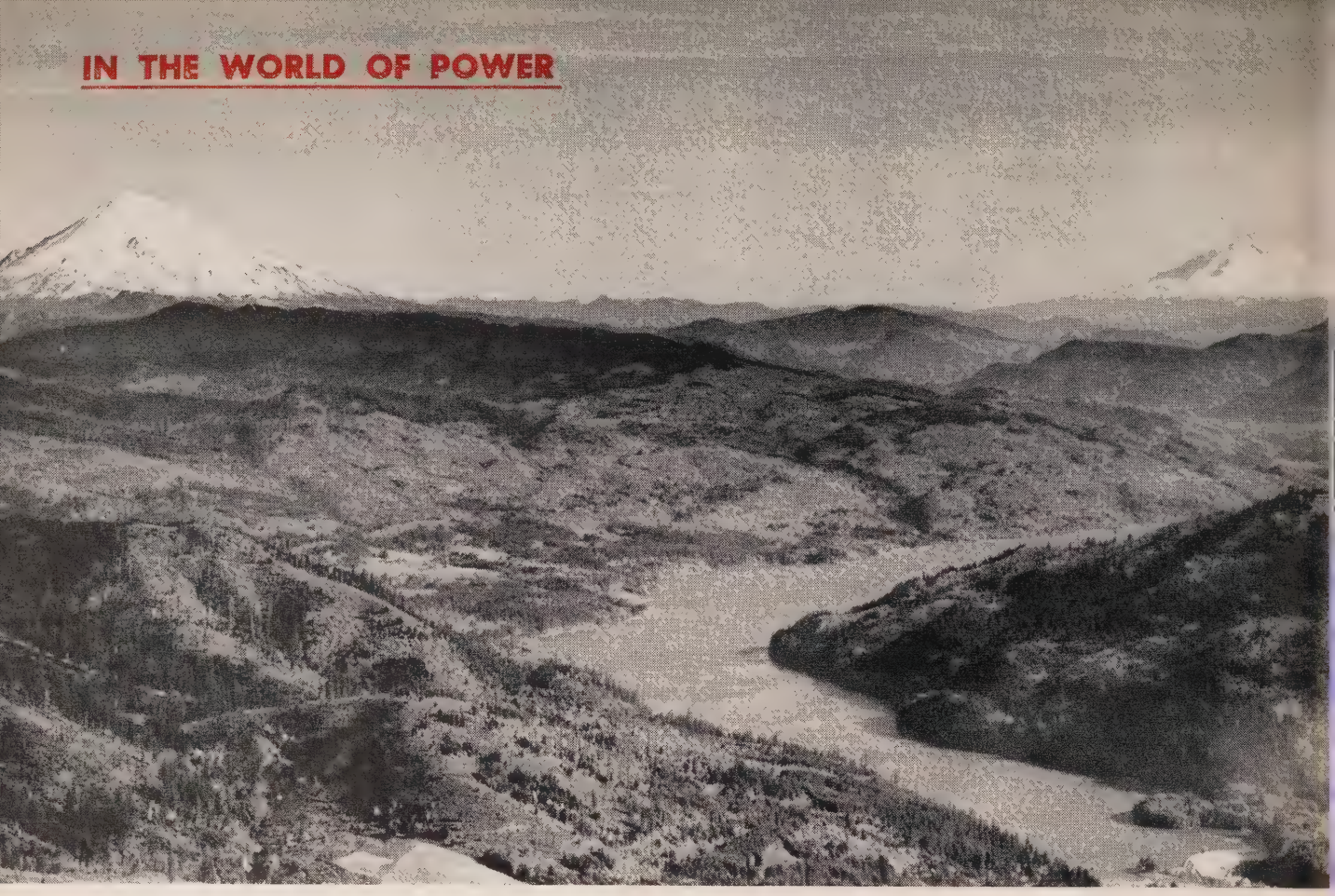
One of the chief items on the agenda was the changes in the district constitution which were endorsed by the members. This discussion was followed by the election of officers, which saw Mayor William Fuller, of Sioux Lookout, elevated to the President's chair with the following slate of officers: Vice-President, J. D. Phillips, Schreiber, Executive members—J. O. Booth, Fort William, Mayor C. J. Wright, Dryden, and Norman McLennan, Port Arthur, and Secretary-Treasurer, A. W. H. Taber, Fort William.

The invitation of Mayor Wright to hold the 1953 convention in Dryden was accepted.

Climaxing the two-day sessions were visits to the Terrace Bay mill of the Longlac Pulp and Paper Company and Hydro's nearby Aguasabon Generating Station.

ENLARGE STATION

Ottawa Hydro-Electric Commission is proceeding with a plan to double the capacity of its Vaughan Street sub-station, following the recent purchase of an adjoining property. Cost of the project is estimated at $75,000.



WATERSHED of Pacific Power and Light Company's Lewis River hydro-electric development includes 731 square miles on the western slope of the Cascade Mountains in southwestern part of Washington State, draining lofty Mount St. Helens on the left.

Pacific Project

UNDER a high-speed schedule that will see first power turned on less than 20 months after start of construction, Pacific Power & Light Company's 108,000-kilowatt Yale hydro-electric project on the Lewis River in southwestern Washington is moving rapidly toward its November target date.

The completed $30,000,000 development will add 550,000,000 kilowatthours annually to the gigantic Northwest Power Pool, which links major power resources of a five-state area and southern British Columbia in the Pacific Northwest. The project is approximately 35 miles airline north of Portland, Oregon, headquarters of Pacific Power & Light and key city (population 371,000) of the Columbia valley.

The Yale project marks the second step by Pacific Power & Light in comprehensive development of the Lewis, a tributary of the mighty Columbia River and one of the region's outstanding power streams. The company has applied for preliminary permits to study the hydro potential of two additional sites higher in the watershed.

The tumbling waters of the Lewis were first harnessed by a companion plant — the Merwin Hydro-Electric project, com pleted in 1931. Its picturesque variable arch-type concrete dam, 12-mile lake and highly-developed picnic grounds draw visitors from all parts of the U.S. at the rate of 75,000 a year. Capacity of the plant was doubled in 1948 by installation of a second 50,000-kilowatt generator, with penstocks built into the dam for eventual addition of two more such units.

Preliminary work on the Yale development — access roads, camp construction, site clearing — began in March, 1951. Dirt began to fly in earnest in June, with the project classed as a defense plant because of its importance to the power supply of the Northwest. Morrison-Knudsen Co., Inc., with its world-wide experience in dam construction, was given the principal contract. Assistance in design and supervision was supplied by Ebasco Services Incorporated, which handled similar work on the Merwin project. Heading Pacific's Yale staff as Chief Engineer and Manager of Lewis River development is E. Robert de Luccia, former head of the power branch of the Federal Power Commission.

While surface crews ripped overburden from the dam area, hardrock miners

began driving a huge tunnel through the canyon wall to divert the swift-flowing Lewis around the site, horseshoe-shaped and 35 feet in diameter — large enough to carry the traffic of a two-lane highway — the 1500-foot tunnel was completed and concrete lined throughout by mid-September. Rock-and-earth cofferdams flung across the canyon blocked the river from its age-old channel to permit final excavation of the river bed.

Geologic characteristics of the Yale site dictated a shift in dam design from the graceful masonry of the Merwin project to a structure of the fill type. Cost factors, too, indicated the change as federal estimates for a concrete structure at the site ranged around $60,000,000. So while tunnel and site excavation moved rapidly ahead, geologists and soils engineers prospected the project area for suitable building materials.

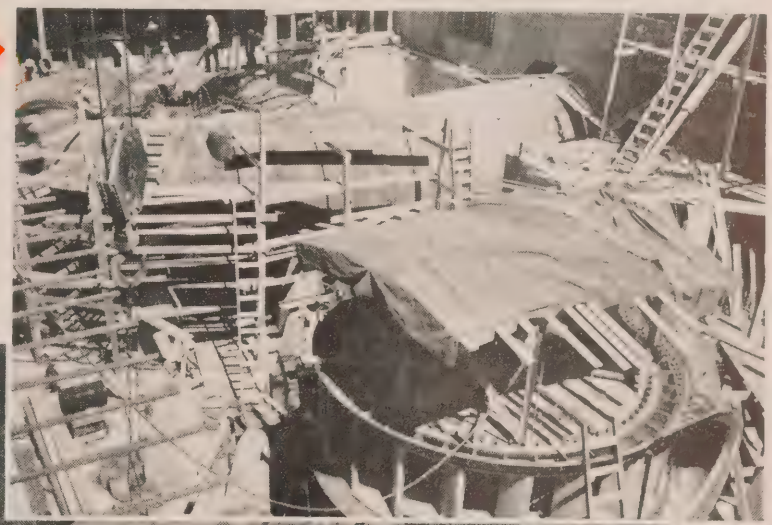
Glacial Deposit

The original rock-fill design was discarded when tests proved local rock unsuitable. But the reservoir area contained millions of yards of glacial deposit ranging in size from sand to cobbles twice the size of a man's head. Other deposits held pure sand for filter sections. And in other sections occurred material suitable for the impervious core. Modern

(Continued on next page)



FIVE-GATE concrete spillway section on the right bank provides overflow capacity of 170,000 c.f.s., far beyond Lewis River's greatest recorded flood. Main dam is to the right in this photo which was taken from downstream side.



RIGHT: Riveting guns chatter as turbine erectors go to work in powerhouse. In foreground is speed ring of a 72,000-horsepower turbine with scroll case for another unit in background. **BELOW:** Aerial view looking upstream showing main dam. Roadway in left foreground is part of permanent system of project. It will swing across spillway (left centre) and completed dam, circling hill at right to reach powerhouse in the right centre foreground.



earth-moving machinery set to work to fashion the Yale dam as an earth-fill.

Three hundred twenty-three feet at its greatest point, the structure is one of the highest of its type in the U.S. Its 4,200,000 cubic yards of packed sand-and-gravel form a man-made mountain, 1200 feet thick at the base and 1500 feet long at the crest. A secondary dam 1500 feet long, 40 feet high and 300 feet thick at the base blocks a low spot, or saddle, between two hills on the right wall of the reservoir. A five-gate concrete spillway section on the right bank provides 170,000 c.f.s. of overflow capacity — far beyond the 110,000 c.f.s. maximum flood ever recorded on the Lewis. This spillway capacity is greater than the flow of the Columbia river itself during its winter low water stages.

'Round-the-Clock Schedule

A fleet of "Eucs" and "bellydumps", loaded by huge draglines and shovels, began placing the fill for the main dam in October, 1951. Batteries of floodlights made possible the 'round-the-clock schedule dictated by the tight time schedule. At the height of activity trucks ranging from 12 to 25 yards capacity were dumping on the dam at the rate of one every 34 seconds — more than 40,000 cubic yards a day.

Nature has been kind. One of the many exploration pits disclosed a deposit of material almost perfectly graded in size from fine silt to one-inch gravel. Exhaustive tests showed it to be impervious. In fact, it could be worked in the wettest weather. The project laboratory called it "a perfect wet weather core material," a finding confirmed by geologic consultants to whom it was referred. The geologists gave it the awesome title of "torrential impervious conglomerate" because, they said, it could only have been so perfectly mixed in some pre-historic torrent before being laid down as a "mud wave" without separation.

Fourth of July weekend saw the main dam completed except for final dressing — a remarkable achievement in less than nine months in the face of 120 inches of rainfall! Meanwhile twin 18-foot power tunnels have been thrust through the south wall of the canyon to carry water from the reservoir to the two 54,000-kilowatt units being installed in the powerhouse. The tunnels are being concreted throughout their 1100-foot length, with steel penstocks linking them to the scroll cases of the 72,000-horsepower turbines. Tailrace of the plant flows directly into the upstream end of the Merwin plant reservoir.

First Unit

Gates on the diversion tunnel were closed about August 1 to start filling the nine-mile Yale reservoir, which will contain 190,000 acre feet of usable storage. The No. 1 unit is to go "on the line" in November, the second a month later. As with its companion plant downstream, the Yale project is designed for eventual installation of four units for a total of 216,000 kilowatts. A novel design will permit use of the diversion tunnel to supply water to the third and fourth units. Full development of the Merwin and Yale plants, plus upstream projects at the Swift Creek and Muddy River sites which the Company is preparing to investigate, would give Pacific slightly over half a million kilowatts on the Lewis River. The watershed above the Merwin plant measures 731 square miles.

Operation of the Yale plant will be largely automatic, with control by microwave impulses from the Merwin plant. Because of the location of the Lewis on the west slope of the Cascade mountains in a region of heavy winter rains, the stream forms an admirable complement in the Northwest Power Pool to the large developments on the main stem of the Columbia river. Fed by rainfall and snowfields on the flanks of two Cascade snowcaps, 9000-foot Mt. St. Helens and 13,000-foot Mt. Adams, the power output of the Lewis is heaviest in the region's winter peak use period when the Columbia is at its lowest flow.

Underground Steam

NATURAL sources of underground steam on North Island, New Zealand, are being enlisted to overcome the country's shortage of electricity.

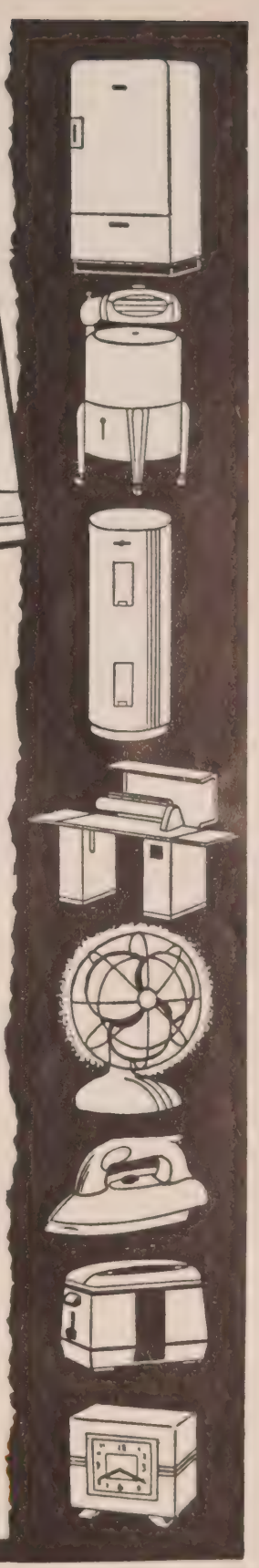
Three weeks after round-the-clock drilling began at Wairakei a six-inch geothermal bore was opened. It is the first of a number which will drive the 20,000-kilowatt experimental pilot plant. Expected cost of the plant is $2,240,000.

Experts believe that the limit of hydro-electric capacity from North Island plants will be reached between 1960 and 1970, depending on the rate of increase of load and speed at which power sources other than water can be developed.



HORSESHOE diversion tunnel, 35 feet in diameter and 1,500 long, was first major undertaking of Yale project. Here tunnel-lining crew walks abreast to dramatize size of big tube. Hydro's Niagara tunnels will be 45 feet in diameter when completed and will be 5½ miles long.





WIRE WISELY - LIVE WELL

Electricity, properly used, brings modern service and convenience to your fingertips. It adds to the ease and enjoyment of living, it places a host of "electrical servants" at your beck and call twenty-four hours of the day. But the extent to which you can use these electrical servants depends upon how wisely your home is wired.

Inadequate wiring is inefficient . . . even dangerous. *Adequate* wiring lets you operate your lighting and appliances at peak efficiency at all times. What is adequate wiring? Briefly, it means the correct size of three wire service to the house, the proper number of circuits and correct size of wire within the home, together with sufficient outlets in each room to take care of your electrical requirements both today and in the future.



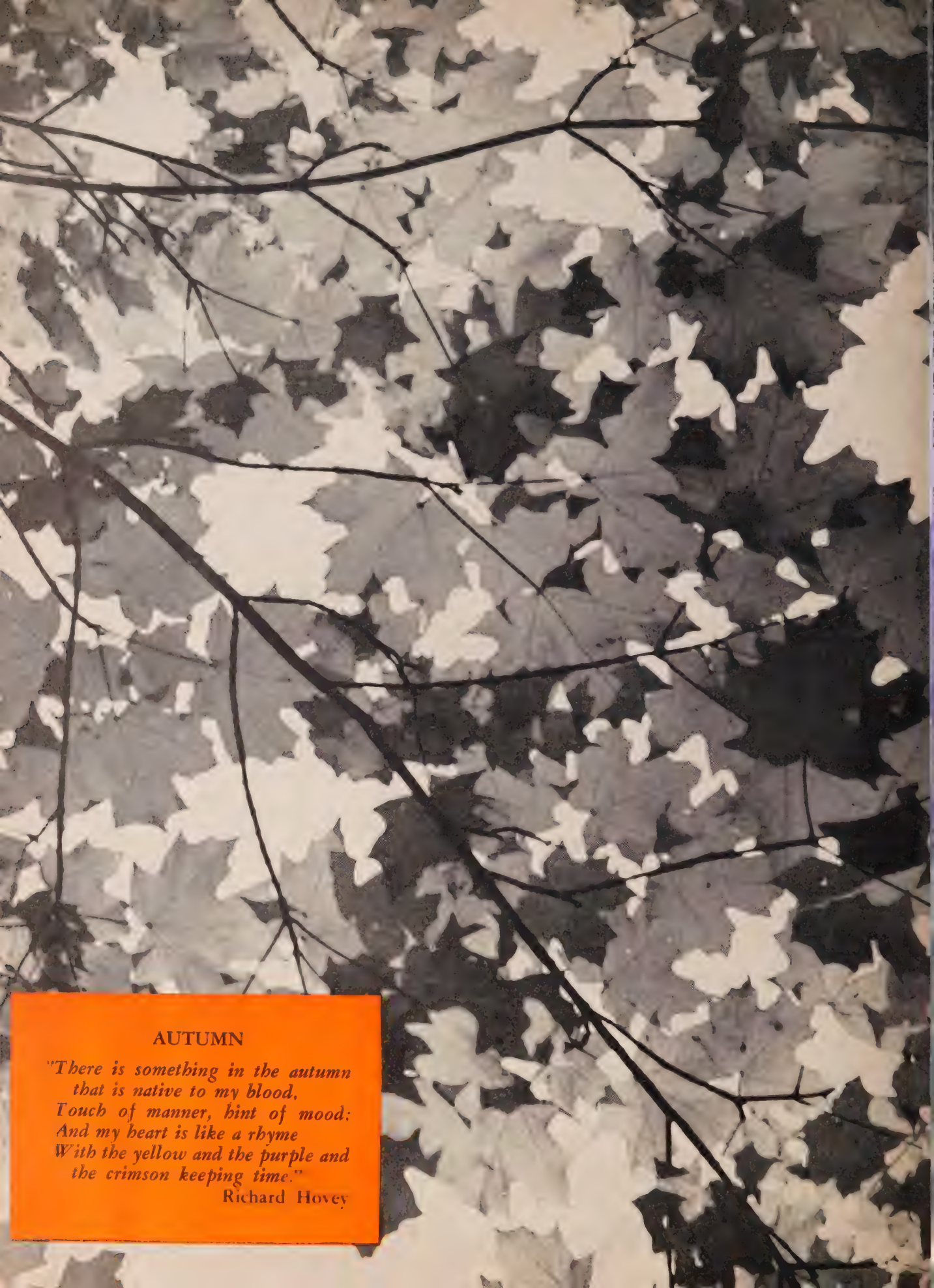
THE FUSE

When too great a load is placed on a circuit, or when a "short" occurs, the fuse "burns out" and cuts off the power. This is your protection. BE SURE TO REPLACE A FUSE WITH THE CORRECT SIZE.

Thanks to "power at cost" you can economically use all these electrical servants in your home—*if* you have provided for them. Be sure, whether you plan to build or remodel, that adequate wiring has top priority on your check list of things you need.

The Hydro-Electric Power Commission of Ontario

2295



AUTUMN

"There is something in the autumn
that is native to my blood,
Touch of manner, hint of mood;
And my heart is like a rhyme
With the yellow and the purple and
the crimson keeping time."

Richard Hovey



ONTARIO HYDRO News

DECEMBER, 1952—VOL. 39 NO. 12

Season's Greetings



Robert H. Saunders



Geo. H. Challies



W. Ross Strike

As we approach the joyous Christmas season once again, we are deeply conscious of its enduring message and of the great accomplishments of the past year. We are fully aware, also, of the high responsibility that is ours in this critical hour in human history.

We welcome this opportunity of expressing our heartfelt appreciation of the loyal and unselfish service of each member of the great Hydro family throughout the entire province.

It is our sincere hope that in observing Christmas this year, each one of us will find inspiration to go forward to even greater achievements in 1953.



S. J. Holden



F. R. Perry



A. H. Manley



ONTARIO HYDRO News



DECEMBER, 1952

VOLUME 39 NUMBER 12

Published by
THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO
620 University Avenue, Toronto

Notable Record

AS 1952 draws to a close the Commission looks back on a year of significant achievement, and forward, with fresh confidence, to the even greater challenges of the future.

In the past 12 months, Hydro has made notable progress in augmenting its available power resources. On June 10, the 273,000-horsepower Otto Holden Generating Station on the Ottawa River was officially opened and seven of its eight units are now in operation. Work also proceeded at a satisfactory pace on the installation of additional units for Hydro's two steam generating stations at Toronto and Windsor. The third unit at the Richard L. Hearn Station was brought into service during November, and the second unit at the J. Clark Keith plant, Windsor, went into operation in April this year. The largest steam-electric stations in Canada, they will have a combined installed capacity of 858,000-horsepower when completed in 1953.

At the same time construction was being rapidly pushed ahead at the Sir Adam Beck No. 2 Niagara project. Earlier this year Chairman Robert H. Saunders announced that the Commission would proceed with the second stage of this project which will have a total installed capacity of 1,200,000 horsepower when completed.

In its unique frequency standardization program in Southern Ontario, Hydro also made noteworthy advances. Elsewhere in this issue reference is made to the fact that some 250,000 customers have been "changed over" to 60-cycle power since the project was launched in 1949.

Other customers favorably affected by Hydro's expansion were those in Ontario's rural areas. By November this year the Commission was serving 338,227 rural customers over 39,795 miles of line — a remarkable increase over the 1945 figure of 156,560 customers and 21,569 miles of primary line!

This year, as never before, attention has been focussed on the prospect of developing the hydro-electric resources of the International Rapids section of the St. Lawrence River, the last major untapped source of hydraulic power in Southern Ontario.

In October the International Joint Commission gave its assent to this development. On December 9 the U.S. Federal Power Commission commenced hearings relative to the designation of a U.S. entity to undertake the 2,200,000-horsepower project in conjunction with Ontario Hydro which has been named as the Canadian agency.

While the foregoing facts do not record the whole story of Hydro's progress this year, they do highlight the very significant role it is playing in Ontario's — and Canada's — new era.

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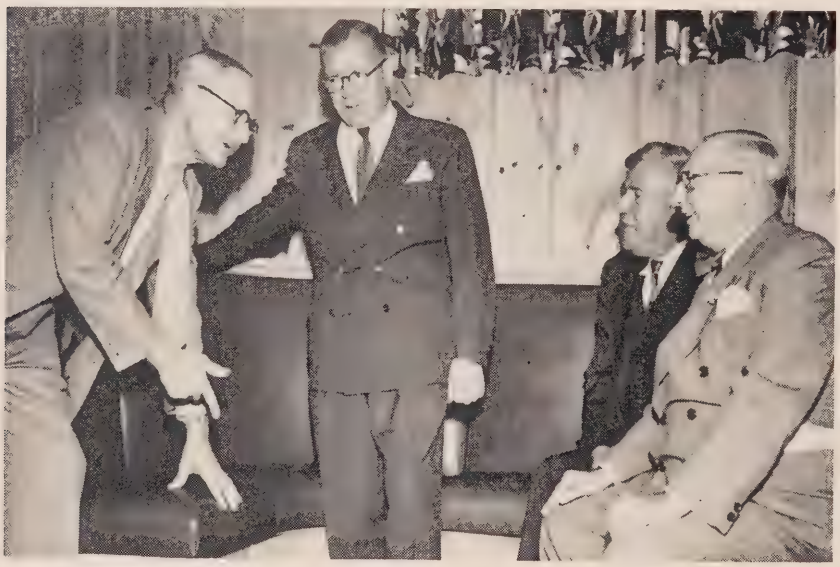
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Sir Adam Beck's Vision of a Strong and Prosperous Ontario has come true, Chairman Saunders Tells Delegates at Kitchener Meeting

PROPHETI



SMILING EXECUTIVE MEMBERS OF DISTRICT 6 O.M.E.A., l. to r., Front row: Director G. W. Gordon, Sr., Kitchener; President A. J. Girdwood, Guelph; Past President, C. K. Merner, New Hamburg, and Director H. O. Hawke, Galt. Back row: Past Sec.-Treas., A. H. Roth, New Hamburg; Director, A. E. MacIntyre, Stratford; Vice-Pres. T. J. Moffatt, Listowel, and Director J. H. Francis, Tavistock. Absent: Sec. Treas., W. J. Bishop, Guelph, and George Glover, St. Marys.



DESIGNER AND CONSTRUCTION SUPERVISOR of Kitchener Public Utilities' Bus Terminal Building, A. W. Bromley, second right, is target for some "serious" questioning by Chairman Ivan Shantz, left; S. E. Preston, General Manager, standing, and G. W. Gordon Sr.

IN October, 1910, Ontario Hydro's first Chairman, the late Sir Adam Beck, paid a visit to Kitchener (then Berlin) to turn on power from Niagara.

On that occasion he made a prophetic statement: "You think our work is done —I say it has only begun!"

These words were recalled recently by Hydro's sixth Chairman, Robert H. Saunders as he addressed delegates at the annual convention of District 6 O.M.E.A.

Exemplifying the truth of Sir Adam's remark 42 years ago, was the tremendous change in the province even since 1945, Mr. Saunders said. The value of Ontario's manufactured products has grown from $3,965,069,021 in that year to a total of $8,600,000,000 at the end of 1951. Concurrently, power consumption among domestic customers had increased 119 percent; commercial, 109 percent, and industrial 40 percent.

Although Ontario Hydro had added 1,800,000 horsepower to its resources and had spent $743,852,000 on its unique program of expansion, the Commission still had only a narrow margin of reserve capacity due to this "ever-growing thirst for power."

"We can look forward to a reserve in December, 1954, of only eight percent and then only temporarily," he said. "It should be between 10 and 15 percent.



IN A QUIET CORNER, D. P. Cliff, Dundas, left, and M. J. McHenry, Dir. of Consumer Service, get down to some undisturbed discussion.

STATEMENT

After December, 1954, and up to 1957, we have cause for worry—hence the need for the second tunnel at Niagara!"

Hydro Pioneers

Guest speaker at the banquet in the Kitchener P.U.C. Bus Terminal where the one-day meeting was held, under the chairmanship of President C. K. Merner, New Hamburg, the Hydro Chairman reminded his listeners that not only had Kitchener's citizens pioneered in the now-flourishing Hydro enterprise, but were today among Ontario's biggest power users. To support his statement he pointed to the fact that Kitchener's average domestic consumption last year was 4,344 kilowatthours compared with an average annual domestic consumption of 3,957 kwhrs. throughout the rest of the province.

"In 1915, the average monthly domestic consumption in Kitchener was 22 kwhrs, or 264 kwhrs. a year," reported the speaker. "Today the domestic consumption is approximately 362 kwhrs. a month."

New Officers

New officers for District No. 6 O.M.E.A. elected for the 1952-1953 season were: President, A. J. Girdwood, Guelph; Past President, C. K. Merner, New Hamburg; Vice-President, T. J. Moffat, Listowel; Secretary-Treasurer, W. J. Bishop, General Manager, Guelph. Directors: J. H. Francis, Tavistock; G. W. Gordon, Sr., Kitchener; H. O. Hawke, Galt; A. E. MacIntyre, Stratford; Dr. H. A. Mutton, Mitchell, and George Glover, St. Marys. Delegates were guests of Kitchener P.U.C. at the noon luncheon and evening banquet.

W. Ross Strike, Second Vice-Chairman, spoke during the morning session. He asked the delegates to give careful consideration to pensions and to give it "top billing in your municipal work." This was especially necessary today "with employees retiring on insufficient pensions

(Continued on next page)



AN EXCHANGE OF IDEAS among the delegates is always an important part of any convention. Demonstrating this, from l. to r., are L. A. Cain, Toronto; C. F. Moses, Manager, Mitchell P.U.C.; R. B. Holmes, Manager, and R. J. Boussey, both of Seaforth P.U.C.



FINAL DECISIONS for the afternoon business session were being made here by Convention Chairman, C. K. Merner, New Hamburg, centre; Melvin Lightfoot, Mayor of St. Marys, left; Norman Siegel, Stratford P.U.C., and A. J. Girdwood, Guelph Board of Light and Heat Comm.

PROPHETIC STATEMENT

(Continued from previous page)

resulting from the higher cost of living," he said.

The speaker also referred to Hydro's increasing interest in the important field of employee relations.

"We have to be careful in our relations with our employees that we keep them separate from municipal affairs," Mr. Strike said. "They are not municipal employees—they are doing a different kind of job and are exposed to special industrial hazards."

Dealing with the question of salary rates, Mr. Strike declared that Hydro tried to keep within the first 10 industrial leaders in this respect.

Delegates also heard Mr. Strike emphasize Commission policy towards the municipalities.

"No matter what our directives, we must relate their effect on the municipalities. We should consult them before any decision is made which might affect them. It may take time, but that is the target at which we are aiming."

Valuable Advice

The speaker also urged his listeners to make use of the valuable advice and assistance available at the Commission's nine Regional Offices.

"There is no need to worry about our size, if we can maintain and strengthen full co-operation."

Turning to Ontario's future, Mr. Strike predicted a tremendous industrial expansion in the Great Lakes Basin during the next 50 years which would make Ontario one of the great industrial centres of the world. He based this opinion on the mounting industrial use of water.

"The greatest source is the Great Lakes and industry is looking at this area," he said.

Afternoon speakers included R. M. McKenzie, Manager, West Central Region, whose talk was entitled "Report from the Regional Manager." M. J. McHenry, Director of Consumer Service, spoke on "The Present Situation in Retail Rates."

He outlined the factors which have affected the rate structure and which, in turn, must be considered in setting a new rate to meet present and future requirements. Specifically, he referred to greater domestic consumption, and the effect of the promotional rate. The latter has encouraged greater use of electricity, but has developed a tendency on the part of the customer to waste power which cannot be spared, he said.

In general, he mentioned conditions which were not present 15 to 25 years ago. Other factors to be considered included space heating by electricity and the influence of television.

"One other factor affecting all this," said Mr. McHenry, "is the cost of producing power."

Joint Effort

Any improved rate schedule would be the result of joint effort by the members of the Rate Committee of the A.M.E.U. and of the Commission's staff.

"Through this study of rates it is hoped to provide municipalities with a fair return from their customers," Mr. McHenry stated, "a return which will provide revenue in relation to the load and the type of service rendered."

Wills Maclachlan, Secretary-Treasurer and Engineer, Electrical Employers' Association of Ontario, delivered a short talk on the importance of safety and first aid training.

In electrical utilities, seven out of 10 serious accidents were electrical accidents and involved linemen on poles, he revealed. Stressing the need for speed during such accidents, Mr. Maclachlan said that if artificial respiration was administered within one minute, nine out of ten men survived; if assistance was delayed six minutes, only one out of ten were saved.

Pass Three Resolutions

Three resolutions directed to the H.E.P.C. were passed during the District No. 6 meeting: One, directed as well to the Dept. of Municipal Affairs asked the Commission to institute controls to give a greater measure of protection to the public and Hydro utilities from faulty erection of TV antennae. Secondly, that Ontario Hydro be asked to incorporate Kitchener in the naming of a project in recognition of the part played by D. B. Detweiler and E. W. B. Snider in the early days of Hydro. Delegates also approved a motion requesting clarification of Hydro's frequency standardization policy regarding local surveys which, under the present regulations, can only be handled by the Canadian Comstock Co.



ALTHOUGH the International Joint Commission has approved the St. Lawrence Power Project, Ontario Hydro must await naming of a U.S. "entity" before undertaking the joint development of the International Rapids section of the St. Lawrence. This warning was issued by Dr. Richard L. Hearn, Hydro's General Manager and Chief Engineer, when he was guest speaker at a "Bosses' Night" dinner of the Niagara Falls Junior Chamber of Commerce. Dr. Hearn, centre, was introduced by W. S. Martin, Q.C., left. President Archie Sheppard is on the right.

250,000 CUSTOMERS

Hydro Passes Quarter-Million Mark In Changeover Program



PRESENTATIONS to Ledbury Park Public School, 250,000th customer "cut over" to 60-cycle power, marked important milestone in changeover program. Participating in ceremony were, l. to r., Principal W. K. Morris, Charles Rathgeb, President, Canadian Comstock Co., who presented trophy to Arthur Daly, Joan Telfer, Chairman Robert H. Saunders who presented oil painting of Sir Adam Beck No. 1 G.S. and portrait of Father of Hydro, and Mrs. I. Brookbanks, Chairman, N. York Bd. of Education.

ONTARIO HYDRO'S unique frequency standardization program passed another milestone recently when North York Township's Ledbury Park Public School became the 250,000th customer "cut over" to 60-cycle power.

A group of 175 of the school's pupils, school and civic officials, representatives of Ontario Hydro and the North York Hydro-Electric Commission, as well as officials of commercial firms, were present at a ceremony in the school auditorium to hear addresses by Hydro Chairman Robert H. Saunders, and Charles C. Rathgeb, President of the Canadian Comstock Company, the Commission's contractor in the project.

Changeover of the North York school means that over 27 per cent of the 904,735 homes, farms, and factories throughout Southern Ontario have received the benefits of 60-cycle power since the program was launched just over three years ago.

The Hydro Chairman presented the school with an oil painting of Ontario Hydro's Sir Adam Beck Generating Station No. 1 at Niagara, and a small portrait of Sir Adam Beck himself. A portrait of the Queen, and a trophy to be awarded annually to the school's outstanding pupil were given by Mr. Rathgeb. The pictures will remain permanently in the modern 2-storey building.

Team Work

Introduced by W. K. Morris, Principal of the Ledbury Park School, Mr. Saunders told the students that personnel working on frequency standardization are engaged on a tremendous undertaking for which teamwork is the key.

There were audible "ohs" among the children when the Hydro Chairman pointed out that if all the washing machines altered so far were placed one against the other in a line there would be a row of washing machines from Ledbury Park School to the other side of Kitchener.

In the school itself, changeover technicians started early in the day altering its 51 frequency-sensitive items. These included signalling bells, record players, and dental equipment. A total of more than 1,115,000 electrical items have been standardized at 60 cycles in the overall program to date.

Five of the 21 areas into which the 25-cycle system is mapped have been virtually completed. These are "A"—Scarborough, Woodbridge and districts north of North York to Lake Simcoe; "B"—Sarnia and the County of Lambton; "C"—London and the County of Middlesex; "D"—the St. Marys, Seaforth, Goderich districts, and "M"—the Ontario Lakeshore municipalities from Swansea to Bronte.

"Island" Diminishing

Completion of these areas has reduced

(Continued on page 27)



SHADED PORTIONS of map show how Ontario's 12,000 square-mile "25-cycle island" is shrinking as Hydro's frequency standardization program rolls forward. Changeover operations are at present underway in Windsor, North York, as well as Dresden and district. Underlined names show municipalities where 60-cycle power is available for industry under Hydro's advance standardization program.







The Romance of the TB. CHRISTMAS SEAL

AGAIN, across Canada and in 70 foreign countries, the crusade against tuberculosis is being taken up by countless numbers of people.

They are doing it through their individual small purchases of TB Christmas seals — multiplied many times over.

The need is real. Figures from the World Health Organization reveal that about 5 million deaths occur annually from this disease. This, actually is a comparatively small figure; up until the mid-20th century, tuberculosis, the white plague, was the leading cause of death.

Canada stands fourth in the list of countries with low death rates; even so, 3,582 Canadians died from this disease last year.

Today as part of a nation-wide campaign, begun the third week in November, thousands of letters each marked with the distinctive double-barred cross have gone already to Canadian households. Simultaneously, "sisters" in white uniforms have taken up their positions throughout the cities to receive public donations.

120 Million Seals

Here, in Ontario approximately 120 million seals are being sent out by the Ontario Tuberculosis Association, working through large municipal organizations and local TB seal committees.

The Toronto organization, known as the National Sanitarium Association, and one of the largest, serving more than 1,400,000 persons has dropped 17½ tons of letters containing over 38 million stamps on post office sorting tables. It required three trucks to deliver the 600 bags to the Terminal Post Office building in the Queen City.

Across Canada last year, over $1,600,000 was raised. This money was spent in the area in which it was raised and for whatever the local committee deemed the most needed tuberculosis preventive program in that locality.

The National Sanitarium Association, for example, spends the funds it raises to pay the entire cost of the Gage Institute Chest Clinic, mass x-ray surveys, operation of 45 reference clinics, and to assist its sanatoria at Muskoka and Weston. Thus, last year it provided 276,000 free chest x-rays and helped in the treatment of 1,800 patients.

Birth of the TB Seal

To appreciate the magnitude of this universal crusade conducted by the "John Smiths" all over the world, it is good to look back and see how it all began.

On a December evening in the year 1903, a Danish postal clerk, Einar Holboell, was sorting hundreds of parcels and letters in a little post office on the outskirts of Copenhagen.

He looked out of the window for a moment. What he saw troubled him — for out there in the night were two ragged little waifs who disappeared into the storm.

He went back to his work with a heavy heart. Why couldn't some of the generosity and good will manifested by these gaily-wrapped parcels and these greeting cards he was sorting be directed to unfortunate folk like the two little urchins who had passed the post office.

At that moment the idea behind our present-day TB Christmas seals was born. When Einar Holboell told his fellow postmen about it they too were enthusiastic. They got out their pencils and figured out approximately how much money was spent every Christmas in postage and how much could be raised if every person bought not one, but several extra stamps. It worked out so well that they persuaded Einar to see the King of Denmark, and tell him about his idea.

It was too late to do anything about the plan that year, but King Christian was so pleased with Einar's plan that he suggested they use the Queen's picture on the first Christmas seal, and hold a sale next year.

Four million seals were sold which was quite a triumph and showed the public liked the scheme. Then came the question of what to do with the money. Einar's first idea had been to help poor children generally, but there were really too many of them. It was finally de-

cided to concentrate on those who were suffering from bone tuberculosis. At that time, tuberculosis was the leading cause of death in Denmark.

United States Aid

The same year, a lady by the name of Emily Bissell read about it in the United States. Her cousin who was a doctor in a sanatorium had written her explaining the plight of the little institution. He said that unless more money was forthcoming, the sanatorium would have to be closed and the patients put out on the street.

Emily Bissell thought of the TB seal idea which had worked so well in Denmark. It seemed to her that what had worked there might well work in the United States too. She got in touch with some of her friends who agreed to put up $40.00. She found a printer who was willing to print the seals at cost. Then she sat down and designed the first seal herself, a simple holly wreath circling the words "Merry Christmas." Collectors who have one of these early seals consider themselves fortunate indeed. But at that time, people did not regard them too highly. In fact, Miss Bissell's first seal sale did not go over very well.

First Campaign

However, the little gray-haired lady was not easily deterred. She took the train to Philadelphia and went to see the Sunday editor of the *North American*. She wanted to know if it would be possible for him to give a little publicity to increase the sale. He was not very interested, but fortunately another of the paper's columnists by the name of Lee Mitchell Hodges saw merit in Miss Bissell's idea. His enthusiasm sold the publisher. As a result of this, the *North American* blazoned forth publicity for the seal sale and started the campaign off by buying 50,000 stamps.

One of the famous stories of that first campaign in the United States is of the ragged newsboy who came in off the street grasping a penny in his grimy hand. He shoved it across the counter and said to the person selling seals: "Gimme one. Me sister's got it."

When Miss Bissell's campaign closed she had $3,000 for the sanatorium, ten times the goal she had set herself.

First Canadian Sale

One year later the seal sale began in Canada. The first campaigns were held by the National Sanitarium Association in Toronto, and the Hamilton Health Association in the year 1908. People from all parts of Canada heard about it and sent in money. The bank clerks in the little town of Kamsack, Saskatchewan took up a collection and sent in a joint contribution. Orders for $500 worth of seals came from Saint John, New Brunswick. Private individuals, including a lady of 89 who sent in a dollar she had made by selling her fancywork, were eager to make a donation. Children of 58 Toronto schools helped by selling nearly 10,000 stamps. All in all $7,358.00 was raised the first year.

This was the beginning of the TB Seal tradition in Canada. From that time on there has never been a year without a seal sale. At the outset, various cities carried on their campaigns separately, but, in 1927, the sale was organized on a national basis by the Canadian Tuberculosis Association through its local committees and provincial associations.

But before these TB seal campaigns swept across Canada, a persistent and effective battle against tuberculosis had been waged for many years by private individuals. One such person was Sir William Gage, who founded Canada's first hospital for tuberculosis at Muskoka in 1896. Another man, working in Western Ontario was Sir Adam Beck, Father of Hydro.

Shortly following his appointment to the London Health Association in 1908, he provided the first accommodation in Western Ontario for the treatment of tuberculosis at Byron. It was named the Queen Alexandra Sanatorium. In the next 10 years, unit after unit was added to the "San" as it was affectionately termed by Sir Adam and Lady Beck. Gradually, it assumed the proportions of a "magnificent obsession" in their lives. It was an absorbing interest that, for them, rivalled even the great public enterprise of Hydro. In 1949 it was renamed the Sir Adam Beck Memorial Sanatorium.

This year's TB seal was designed by Tom Darling, Virgina, U.S.A. He began with the double-barred cross and added the lighted candle as a twin emblem of a brighter future.

Sale of these Christmas seals now raises more than 200 times as much as was given in 1908. This year marks the 26th nation-wide Christmas seal sale. For a young country like Canada, 26 years is long enough to establish a tradition.

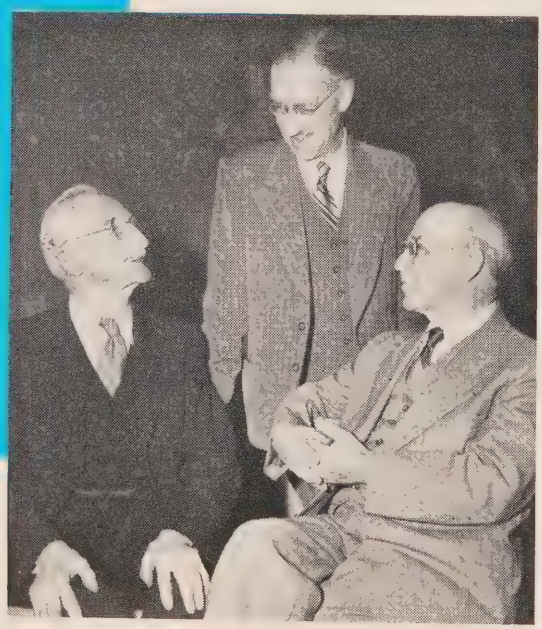
NINE TONS of letters containing Christmas seals have been sent out to 290,000 families in Greater Toronto this year. Proceeds will be used to provide free chest X-rays. Selling seals in Toronto stores are these attractive misses, J. McAvoy, M. Edwards and B. Murphy



FEATHER IN PRESTON'S CAP



A SCIENCE TEACHER would envy the attention given Frank Kreason, Supt., Preston PUC, by local guests Robert Colvin and June Pritchett as he explains the finer points of a meter.



ORIGINAL MEMBERS of Preston's Commission in 1908 are Thomas Ballantyne, left, and V. P. Bernhardt. Third member of this group is M. H. Smith, standing.

PRESTON, population 7,800, renowned for its mineral health springs, is wearing a bright new feather in its cap of civic pride.

The reason?

Preston Public Utility Commission's new $120,000 main substation and operating headquarters.

In an evening ceremony held at the entrance to the new building on October 24, a large crowd of townsfolk and guests from other points watched as Hydro's Chairman, Robert H. Saunders, officially opened the new building. The traditional ribbon-cutting ceremony was performed by a small boy, Ronald Bast, who was called up from the audience by the Chairman.

The building was dedicated by Rev. W. H. Knauf, representing the Preston Ministerial Association.

Later, with "justifiable pride" in its achievement, the six-man commission headed by Chairman O. J. Little, and including the indefatigable Manager, H. B. Mattson, invited the assembled citizens to inspect their new substation.

Destroyed by Fire

Plans for the new structure sprang from the still warm ashes of the old building after it was destroyed by an explosion and fire in November, 1950. During the emergency, neighbor municipalities responded immediately, loaning men and equipment.

This "family" co-operation was publicly acknowledged by Mr. Mattson as he mentioned the assistance rendered by the municipalities of Galt, St. Marys, Hespeler, and Kitchener. Special reference was made, as well, to the aid provided by Manager R. M. McKenzie, Guy Parker, Consumer Service Engineer, West Central Region, and crews from that region.

Commissioner R. C. Hilborn introduced Mr. Saunders after Acting Mayor Ford Willson had extended greetings.

Chairman Saunders, speaking during the opening ceremonies, lauded the foresight of the Preston Commission in planning a building, not only for the present, but for the future.

"Today, when Ontario is indisputably on the march, there is only one thing



NEW BUILDING was designed by Manager H. B. Mattson in co-operation with Graham Reid & Associates, Toronto. In 1950 old station was destroyed by an explosion and fire.



THRILL OF A LIFETIME came at an early age for Ronald Bast of Preston, when Hydro Chairman Robert H. Saunders called him from the audience to cut the traditional red ribbon.

that can stop us — that is our unpreparedness."

The speaker said that over the years, Hydro has kept pace with the tremendous industrial expansion in Ontario — providing an additional 1,800,000 horsepower since the war.

Financial Position Sound

Hydro's financial position is sound, he continued. Speaking of a recent $35,000,000 bond issue, Mr. Saunders said: "It went on the market at 12 noon; at 5 o'clock the books were closed. This is proof enough that the people of this province have faith in their Hydro."

Preston Commission Chairman O. J. Little, who presided during the ceremonies, referred to the opening as a significant milestone in the history of Preston.

"It is a far cry from May 1908, when, as one of the original 14 municipalities, we contracted with the Ontario Hydro for 600 horsepower," he said. "Today, our load is 8,500 h.p. and growing by about 1,000 h.p. per year."

Mr. Little said the present substation has increased capacity and with an improved distribution system, will provide better service. With the addition of two other transformer stations, Preston would not again be in the position it was when the explosion occurred. Furthermore, the system is so linked that the power can be supplied by either station he said.

Addressing a dinner attended by civic officials, municipal and Ontario Hydro representatives, at the Kress Hotel earlier in the evening, Mr. Saunders presented a photograph of Sir Adam Beck to Mr. Little.

"More and more I realize," Mr. Saunders said, "what a great debt the people of Ontario owe to the municipalities in this district where Hydro was born."

R. M. McKenzie, Manager, West Central Region also presented Mr. Little with a picture of Mr. Saunders.

Norman Grandfield, Manager, Galt PUC, congratulated the Preston Commission and its manager on behalf of R. H. Martindale, President of the A.M.E.U.

(Continued on next page)



FOREMAN Gordon Campbell, left, along with Manager H. B. Mattson (pointing), proudly show new equipment to Norman Grandfield, Gen. Mgr. Galt P.U.C.; Bill McLeod, Supt. Hespeler, H.E.C., and Eby Rush, Waterloo P.U.C.

A NATIONAL problem—not hockey—was the subject under discussion by Edward Gambling, President, Canadian Legion, Preston, left, Howard Meeker, M.P., Waterloo South, former hockey star, and W. R. Burr, Preston.

(Continued from previous page)

D. P. Cliff, Secretary-Treasurer, O.M.E.A., brought greetings on behalf of the Hydro municipalities. He paid tribute to the Preston Commission for building a system which will serve its customers in a better and more efficient manner.

"It is good employee relations when you supply your workers with good tools and surroundings," Mr. Cliff said. "And you, Mr. Chairman, have gone out of your way to provide these."

Howard Meeker, M.P. Waterloo South, Commissioners W. B. Denyes, R. F. Sidenius, and Guy Parker, West Central Region also spoke briefly. Rev. P. J. Meyer offered grace.

R. M. Myers, M.P.P., Waterloo South, spoke of the advantages of abundant cheap power.

"Cost of power in Ontario is a third of what it is in New York State," he said. "This is due, not only to available sources of waterpower, but to public ownership and to the fact that Hydro is well managed."

The new building, designed by H. B. Mattson in co-operation with Graham Reid & Associates, Toronto, is functional in design and of rigid frame construction. The substation and operational headquarters include a stores room, meter department and a garage.



HYDRO Home Forum

by Edithemma Dighton
Hydro Home Economist



Christmas is one time of the year when friends and relatives are drawn into the home circle. One highlight of the season is tree-trimming. Name one person with an ounce of Christmas spirit who doesn't enjoy doing his bit of tinsel-draping. Then, too, plenty of people enjoy helping to decorate the table.

* * *

New, wire-coil candlesticks in red and green can give your table added beauty this year. Candles of any size can be fitted into the "spring" arrangement.

* * *

Pretty table favors for each guest may be a novel Santa Claus figure. The figures can be made with a red apple on which a marshmallow is anchored with a toothpick, and over which a semicircular piece of red paper is placed as a cap. Stretch cotton batting around the "neck" and pull a piece down as a beard. Place whole cloves in the marshmallow and apple for eyes and buttons.

* * *

Roses in December look most attractive if you partially freeze a large, oiled jelly-mould of water placing two or three roses in the slush and continuing to freeze hard. Turn out on a cake rack over a cake pan and camouflage the base with cotton batting and sprigs of green.

* * *

Fruit cocktail folded into whipped lime gelatine makes a festive appetizer. We substitute two teaspoons of lemon juice for two teaspoons of water when the flavored gelatine is dissolved.

* * *

A table gift may be frosted squares of cake topped by a ribbon and bow in red icing applied with a cake decorator.

* * *

Geese, as well as turkeys and capons, will be available in many sizes for Christmas — big or small, dressed, or in pieces. You may prepare the Christmas fowl according to cooking equipment, size of family, and storage space available for perishables. In case of limited accommodation you may wish to buy pan-frying pieces and serve buffet style.

* * *

Amount of stuffing for fowl may be calculated by allowing 1 cup of prepared crumbs for every pound of the ready-to-cook weight of bird. Perhaps it may be more convenient to bake the stuffing in custard cups a day or so previous and warm the dressing at the same time as the rolls in a moistened paper bag.

* * *

A roasted fowl is "done" when the leg joint can be easily moved or broken. However, if the drawn weight is 4 to 8 pounds the cooking time will be about 4 hours; if weight is 8 to 12 pounds, the roasting period will be 4 to 4½ hours. Fowl of 12 to 16 pounds take 4½ to 5 hours, at 325 degrees.

Coconut Coffee Fudge

3 cups sugar
½ cup light cream
1 cup strong coffee
2 tablespoons corn syrup
2 tablespoons butter
½ teaspoon vanilla
¾ cup coconut

Combine sugar, cream, coffee, and corn syrup in saucepan and bring to a boil, stirring constantly. Continue boiling and stirring until a small amount of mixture forms a soft ball in cold water or to a temperature of 236 deg. F. Remove from heat. Add butter and vanilla without stirring. Cool to lukewarm. Then beat until mixture begins to thicken and loses its gloss. Stir in coconut. Turn into greased 8 x 8 x 2-inch pan. Makes about 36 pieces.

Experiments show that fowl should not be stuffed before freezing. If it is nicely trussed it may be frozen ready for the roast pan or after it has been cooked and cooled. Wrap meat snugly in foil before fast-freezing.

* * *

After your turkey dinner the meat from the roasted turkey can be wrapped in vapor-proof foil and placed in freezer storage. Then, too, the stuffing and gravy should be stored in separate containers in the refrigerator. Boil turkey bones, cool broth, and refrigerate the liquid.

* * *

Chopped turkey can be made into tossed salads, jellied pineapple loaf or sandwich filling. If you mince the meat, mix with celery, chili sauce, milk sauce, or cheese and seasoning, and make into patties to broil or pan fry.

* * *

New style canned corn is a product that is one part kernel, and the rest, crushed. This is said to improve the flavor.

* * *

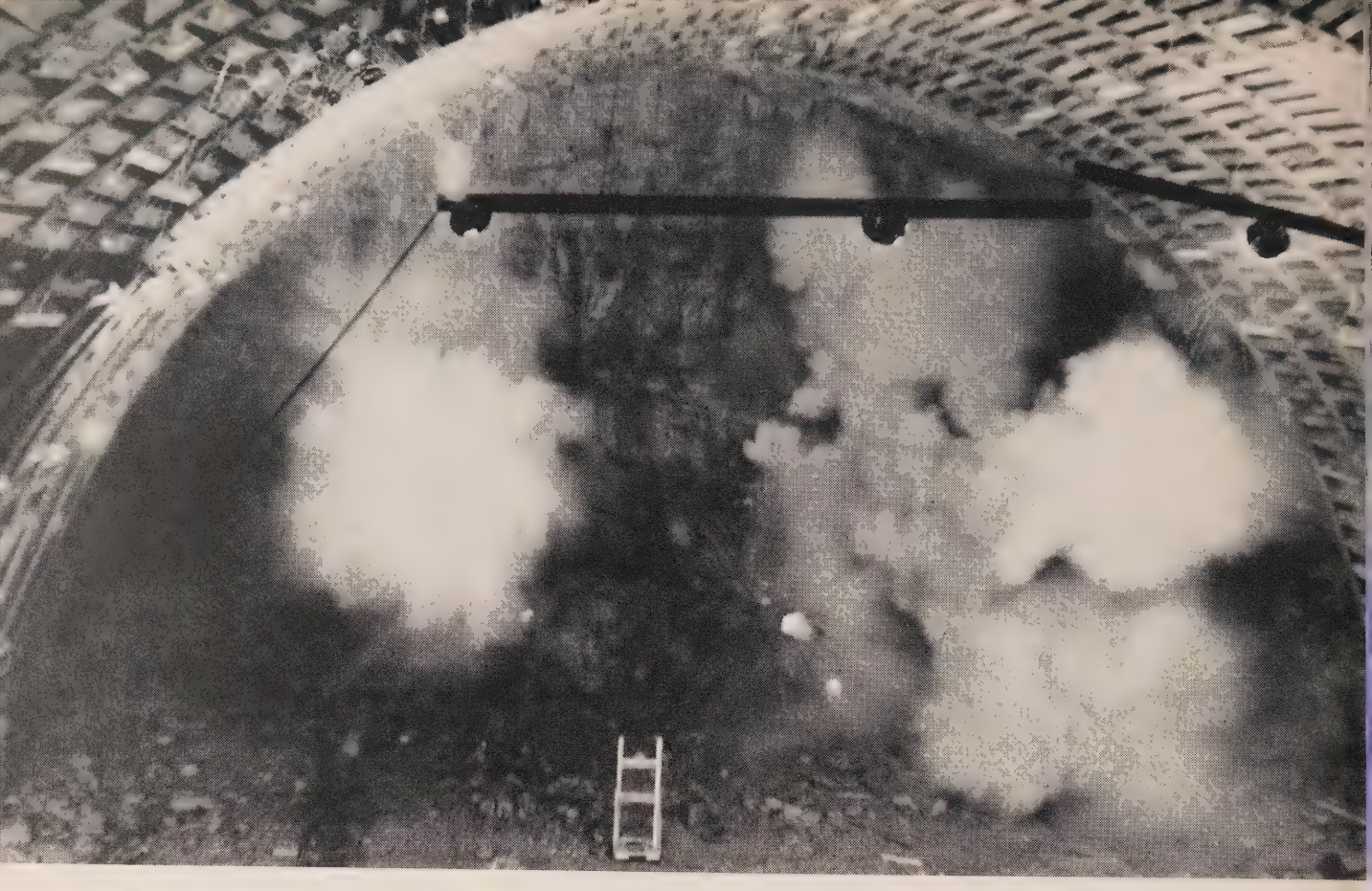
A new roll mix in a blue and yellow box contains enriched flour and the rolls seem to be more tender.

* * *

If you are buying fruit cake you might like to know that sliced Christmas cake is available.

* * *

One of the most helpful electrical gifts could be the new automatic fryer and cooker. Imagine! Cold shortening can be heated to 375 degrees in 12 minutes and the temperature is easily maintained by following the instructions in a guide book. As a cooker it is just the utensil for pot roasts and casserole dishes. During the festive season it will be in constant use on your best table as a warming unit.



FIRST BREAKTHROUGH

IN a vaulted corridor of solid rock, some 185 feet underground, Ontario Hydro held a short ceremony a few weeks ago to mark the first breakthrough between Tunnel Sections Three and Four of the mammoth Sir Adam Beck No. 2 Generating Station development at Niagara Falls.

Wearing a hardrock miner's hat, Ontario's Lieutenant Governor, Hon. Louis O. Breithaupt, pressed a button which set off approximately 1¼ tons of dynamite crumbling a 20-foot, 2,000-ton rock plug between the two sections of the 5½-mile tunnel.

Linking of these two tunnel sections marked completion of another important phase of construction at this 1,200,000-horsepower project. The tunnel, with a rough diameter of 51 feet, is the first of two, 5½-mile tunnels to be excavated to convey water from an intake in the Upper Niagara River under the City of Niagara Falls to a 2¼-mile open canal. From the canal, Niagara waters will flow into the turbines of the 12 units of the new generating station now under construction at the foot of a 300-foot cliff on the lower Niagara River, near Queenston.

Together these tunnels will divert from the Niagara River, 15,000,000 gallons of water per minute — enough to supply the daily domestic needs of 216,000,000 people.

Careful Planning

"It is an occasion of great significance to Hydro," said Chairman Robert H. Saunders, "culminating months of careful planning and work to effect the first link between excavation crews working towards one another in the first of two tunnels associated with this tremendous project."

Witnessing this impressive ceremony were some 500 distinguished government and municipal guests, as well as prominent construction representatives from Canada and the United States. Occupying a place of honor on the platform, located some 3,100 feet from the scene of the blast, were the representatives of Rayner-Atlas Company and Perini-Walsh Associates who are carrying out the tunnel work. The latter company was responsible for excavating the tunnel sections joined by the breakthrough.

"We take great pride in this project," said Louis R. Perini, head of Perini-Walsh Associates, "it is one of the biggest engineering jobs underway today in North America, and it is receiving the highest calibre of workmanship our skilled men can provide."

SAFETY HATS worn by guests waiting to descend shaft provided an interesting photo subject.



LIEUTENANT-GOVERNOR LOUIS O. BREITHAUPT, left, presses the button to set off charges which collapsed the 20-foot rock plug, visible, left, between Tunnel Sections Three and Four. Standing beside the Lieutenant-Governor are Hydro Chairman Robert H. Saunders, Reeve A. G. Bridge of Stamford Township, and Louis Perini, President of Perini-Walsh Associates.



A GROUP OF HYDRO ENGINEERS who are playing an important role in construction at the Niagara project. From l. to r., J. O. Gorman, Geologist; T. L. White, Tunnel consultant, Youngstown, Ohio; O. E. Johnston, Project Engineer; E. T. Ireson, Generation Engineer; T. G. Willows, Tunnel Project Eng., and Gordon Tindale, Asst. Tunnel Project Eng.



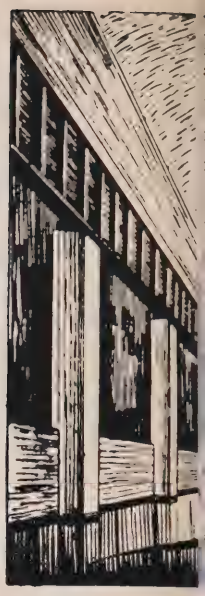
ENJOYING THE HUMOR of the framed cartoon, presented to President Louis Perini, of Perini-Walsh Associates, centre are: Dr. R. L. Hearn, Gen. Mgr. and Chief Engineer, left, and Hon. G. H. Challies, 1st Vice-Chairman.





FRAMED in the vaulted arch of the tunnel, guests stand on the mound of rock following the demolition of the massive 2,000-ton plug.

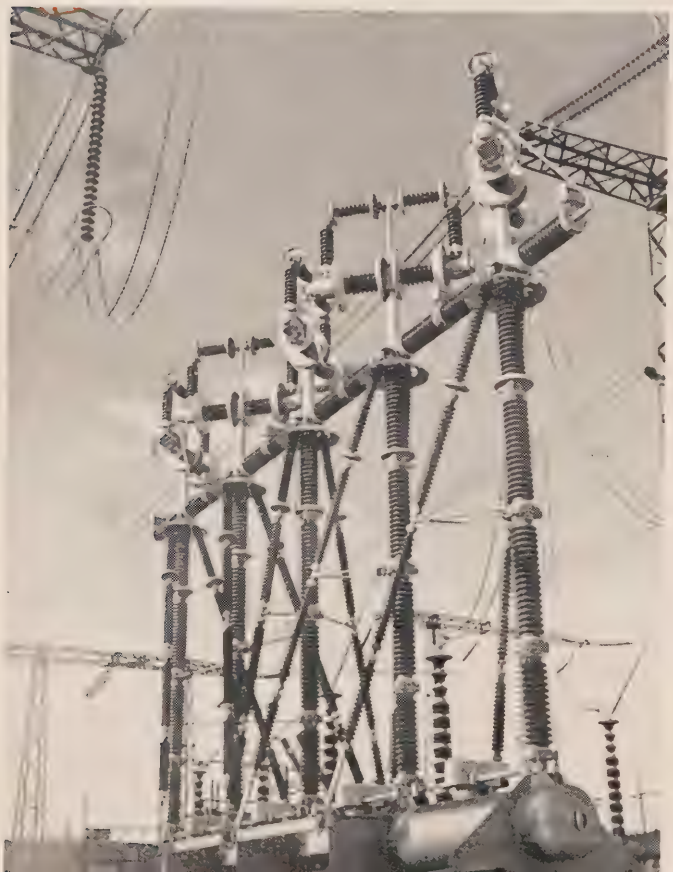




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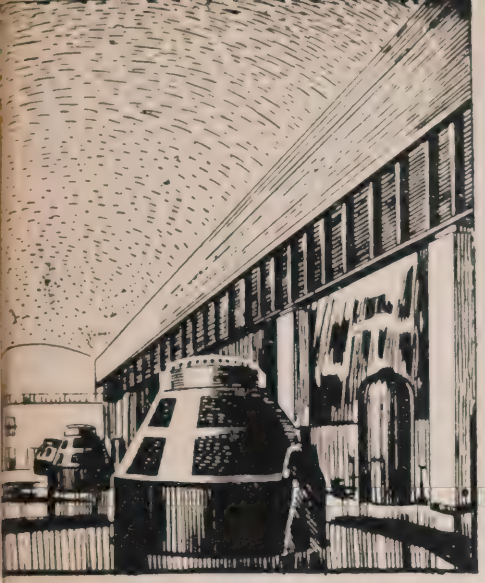
SPANNING the Stora
600-mile high tensior
380,000 volts—the h

THESE Swiss circuit breakers, designed for 380,000-volt transmission, are being utilized at Harspranget together with several other types of breakers in the expansion of the Swedish system.





SWITCHING AREA at Harspranget resembles a vast forest with it
New line which took four years to complete carries eight cable
reputed to be 30 percent stronger than copper and 30 percent
saving. Photo on the right shows head of one of 380,000-volt tr



in Sweden, the generating room at Harspranget, 0 ft. long, houses three, 115,000-kilowatt units. of the world's largest transformers, below right.

SWEDEN'S "FIRST"

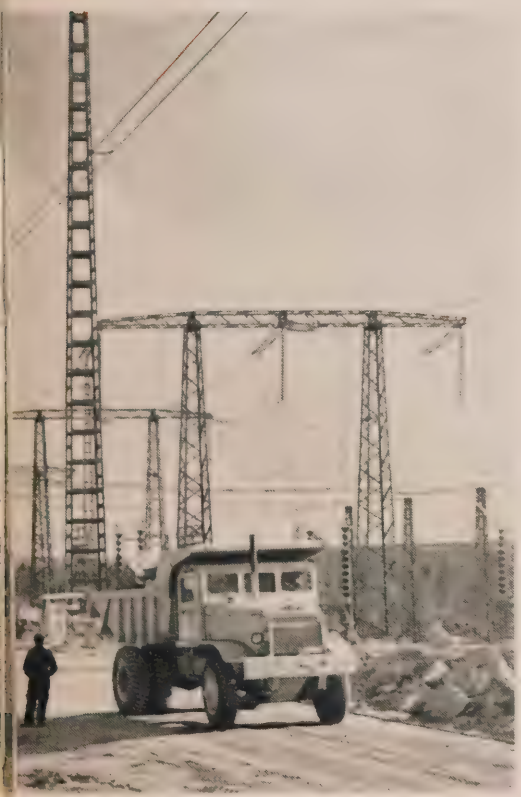
SWEDEN scored an important "first" in the field of electricity recently when King Gustaf Adolf formally opened the nation's largest hydro-electric generating station at Harspranget on the Lule River in Lapland.

The ceremony attracted wide international attention for it also marked th inauguration of a 600-mile trunk line to carry power from the new station to Central Sweden—the world's first 380,000-volt transmission system built for commercial purposes.

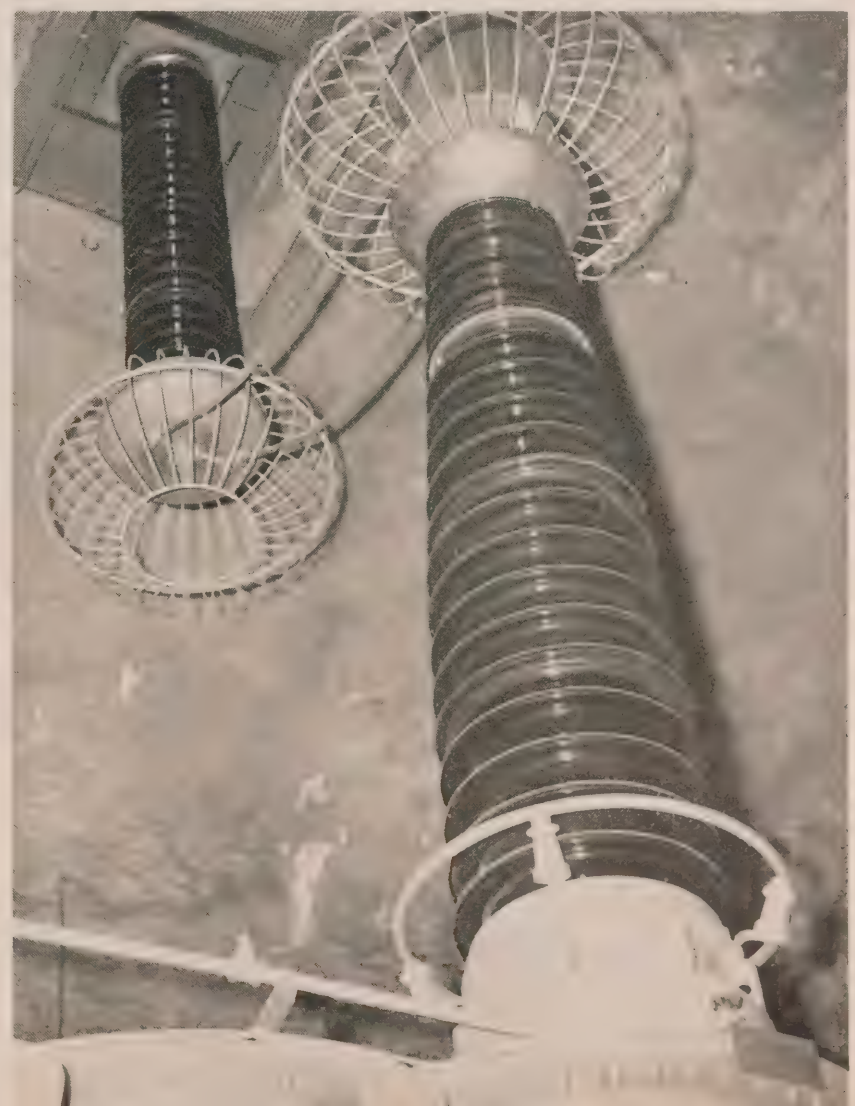
The new plant, the second large station in the vicinity of Sweden's "Polar City," has a capacity of about 350,000 kilowatts. The project cost some $52,000,000, and took seven years to complete. The potential of this important addition represents about one-tenth of the country's total energy production.

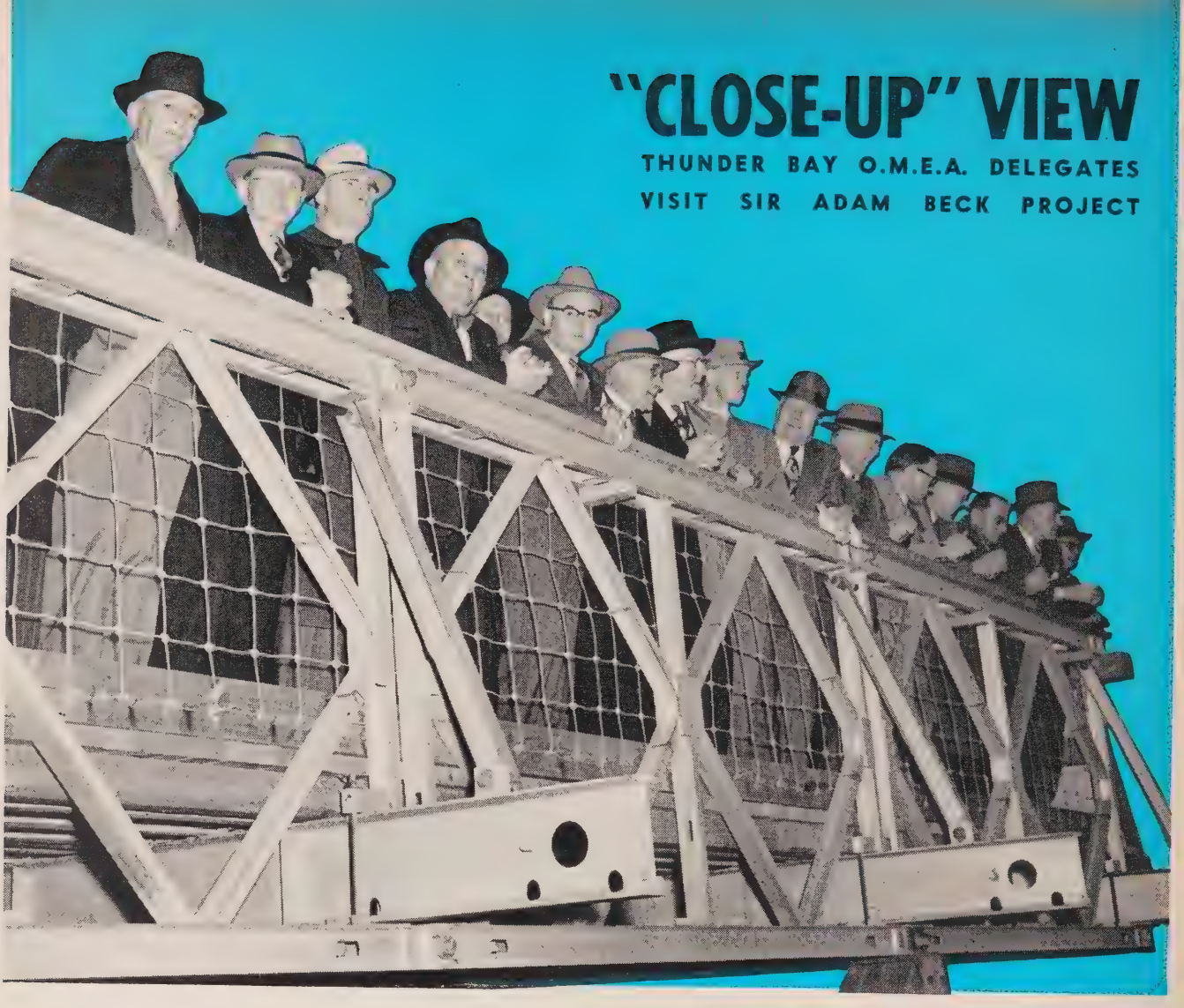
Ontario Hydro News is deeply indebted to Major Helge Toren, *Svenska Dagbladet* Swedish daily newspaper published in Stockholm, who kindly placed the photos shown on this and the opposite page at our disposal. The photos appeared in a special edition of *Svenska Dagbladet,* published in both Swedish and English to celebrate this important electrical event.

three miles from the underground plant, this he carries the power to Central Sweden at age yet used in the world for transmission.



power pylons and undergrowth of circuit breakers. steel-aluminum construction, known as Feral cable, use is estimated to have affected a 40 percent transported to Harspranget on special railway cars.





"CLOSE-UP" VIEW

THUNDER BAY O.M.E.A. DELEGATES VISIT SIR ADAM BECK PROJECT

OBSERVATION PLATFORM at top of Niagara gorge proved an excellent vantage point for inspection of Sir Adam Beck No. 2 powerhouse site.

A LARGE delegation of District 3 O.M.E.A. members, representing several Lakehead municipalities, recently had the opportunity of a "close-up" view of Hydro's Sir Adam Beck No. 2 development at Niagara Falls.

On the personal invitation of Chairman Robert H. Saunders, the Thunder Bay group visited the 1,200,000-horsepower project in company with O.M.E.A. and A.M.E.U. provincial representatives, as well as brother O.M.E.A. members of District 5 Association.

Inspect Tunnel

Climax of the tour for the northern party was an underground inspection of a section of the first tunnel being excavated at Niagara. Dressed in rubber coats and boots, and wearing safety hats, they descended Shaft No. 1 in a dramatic descent past the massive concrete caissons.

Below, at the 330-foot level, the delegates came face to face with the mud and noise and boom-town excitement of this mammoth job. They saw 30-ton Euclid trucks and bulldozers manoeuvring with ease in a tunnel approximately 51 feet wide.

Although the visitors are accustomed to mining developments, huge in their own right, they were amazed at the magnitude of this tunnel. They were told that it, along with a parallel tunnel 250 feet away, would carry 15,000,000 gallons per minute, or 21,600,000,000 gallons a day when completed.

Attend Thorold Meeting

Another feature of their visit to Southern Ontario was an opportunity to attend a special meeting of District No. 5 O.M.E.A.

The meeting was held in the Pine Hotel, Thorold, under the chairmanship of Dr. Fred Barron, Paris, with the Thorold and Merritton commissions acting as hosts to the visitors. A well-planned agenda stimulated discussion among delegates and contributed towards a profitable meeting.

Discussion on the dangers inherent in improper television antenna erection was led by M. J. McHenry, Director of Consumer Service, Ontario Hydro. He spoke of the danger arising, not only from the erection of antennae near high tension lines, but the subsequent hazard to these lines if antennae were blown down. Regarding rain damage to the interior of a house arising from work on the roof during the antenna installation, Mr. McHenry said that this matter did not come within Hydro's jurisdiction.

"We are being asked frequently to bring the installation of television antennae under our Inspection staff," the speaker



TWO THOROLD P.U.C. members, Chairman C. R. Buss, and C. R. Knoll, left to right, discuss program with C. H. Moors, and J. O. Booth, both representing Fort William.

said, "but, it is not covered in the regulations, and for this reason the inspectors have no authority."

Continuing, Mr. McHenry pointed out that it would be difficult to bring the work under the regulations because aerials are not connected to an electrical circuit.

"However, Hydro has brought these dangers to the attention of the Electrical Contractors' Association, the Electrical Dealers' Association, and the manufacturers of antennae," Mr. McHenry stated.

With respect to inspection authority, the speaker said there is quite a strong feeling that any regulation should be largely governed by the building code of the individual municipality.

During the discussion, opinion was divided among delegates from strong and weak reception areas. Delegates from good reception areas indicated that improved reception had resulted in a decrease in the size of aerial required.

On the other hand, delegates from areas requiring high antennae spoke of the definite need for a uniform system of approval across Ontario.

Approve Resolution

Discussion culminated in the adoption of the same resolution recently passed at the Kitchener meeting of District

(Continued on next page)



PROPER RESPECT is accorded this truck by two tunnel visitors, D. I. Nattress, Manager, Northwestern Region, left, and Sam Ashton, Port Arthur.





OBSERVING BIRTHDAYS two delegates were recipients of an impromptu presentation. On the left, Norman Grandfield congratulates C. H. Moors, Fort William, who in turn did the honors (upper photo) when it was discovered that O. J. Little, Preston, was also celebrating.

(Continued from previous page)

No. 6: "That the H.E.P.C. and the Dept. of Municipal Affairs be asked to institute controls safeguarding Hydro utilities and public property from faulty erection of television antennae."

The subject of collecting delinquent accounts when the property is transferred was introduced and discussed by J. A. Williamson, Niagara Falls. He pointed out that on the authority of the Public Utilities Act, Section 30, the indebtedness becomes a lien against the property.

Significant Role

D. P. Cliff, Secretary - Treasurer, O.M.E.A., spoke on changes in Hydro policy and the significant part played by the O.M.E.A. during the early formation and development of Hydro.

Mr. Cliff also referred to the decision of the O.M.E.A. favoring Ontario Hydro's proposal to amalgamate the Niagara, Georgian Bay, and Eastern Ontario Divisions into the Southern Ontario system to facilitate interchange of power.

Another change, the speaker pointed out, was the vote of the municipalities in favor of frequency standardization in Southern Ontario.

Concluding, Mr. Cliff said: "It is a wonderful association and we look forward to the day when the Northwestern Region will become part of a vast amalgamation."

During the luncheon that followed, a welcome to the delegates was extended by Mayors W. P. Martin, Thorold, and F. O. Leeson, Merritton.



IT'S PLAIN that Reeve F. V. Kelley got the chair first with other Schreiber Comm. members, Chairman C. C. Skinner, left, and Comm. J. D. Phillips proving there was still room. Left, standing, but smiling, is Chairman N. A. McLennan, Port Arthur Public Utilities Comm.



"WELCOME TO THOROLD," say PUC Manager H. Allan Howard, as he shakes the hand of Mayor C. J. Wright, Dryden. Beside him are: Acting Mayor A. S. Olson, Kenora, and Mayor William Fuller, Sioux Lookout.

McClymont Heads Western Metermen

G. E. McCLYMONT, Chatham P.U.C., was elected President of the Western Ontario Metermen's Association at the fall meeting in Amherstburg.

During the morning session, J. Marsh Bogart, Sangamo Company Limited, Toronto, spoke on the repair and standardization of thermal demand meters while L. V. Hunt, Meter Standardization Engineer, Ontario Hydro, presented a paper on the standardization of meters. N. J. Lake, Industrial Survey Engineer, Ontario Hydro, with a paper on power factor surveys and economics, and E. S. Beal, C.G.E., discussing the applications of capacitors and their effect on metering, were the featured speakers at the afternoon session.

Other officers elected were: Earl Thornton, Ingersoll, P.U.C., Past President, and A. W. Lawson, Sarnia H.E.C., Secretary-Treasurer. Executive members named were: L. D. MacVicar, St. Thomas P.U.C.; Gerald Near, St. Marys, P.U.C.; L. B. Grondin, Amherstburg P.U.C.; T. H. Lewis, and M. W. Alderson, Ontario Hydro, London; M J. Cook, Woodstock P.U.C.; E. W. McMurray, London P.U.C., and Leslie Allan, Windsor U.C.



SPEAKERS' PANEL included, l. to r., L. V. Hunt, Ont. Hydro; J. Marsh Bogart, Sangamo Co., Toronto; N. J. Lake, Ont. Hydro, and E. S. Beal, C.G.E.





ABOVE—Congratulations are extended by Past President Earl Thornton to incoming President Jerry McClymont, right, shown with other members of the 1952-53 executive in the photo on the left. Front row, l.to r., E. W. McMurray, London; A. W. Lawson, Sarnia, Secretary-Treasurer; Mr. McClymont, Mr. Thornton, and Leslie Allan, Windsor. Back row, l. to r., L. D. MacVicar, St. Thomas; Gerald Near, St. Marys; L. B. Grondin, Amherstburg; T. H. Lewis and M. W. Alderson, Ont. Hydro, London, and M. J. Cook, Woodstock.



SITE OF THIS YEAR'S MATCH COVERED AN AREA OF SOME 835 ACRES.

YOUNG Bill Snowden of Nanticoke, Ontario, is the proud possessor of a ⅓-horsepower general utility motor, awarded in recognition of his skill as a plowman at the 39th International Plowing Match. The motor was donated by Ontario Hydro, as first prize in the Class 5 Tractor Competition.

Formal presentation was made during the big banquet which traditionally marks the conclusion of this great agricultural event by O. S. Luney, Manager of the Commission's Eastern Region. Hydro was also represented in the "Tent City" by a large display which featured a model electrified farm as well as the giant model of the St. Lawrence Seaway and Power Project.

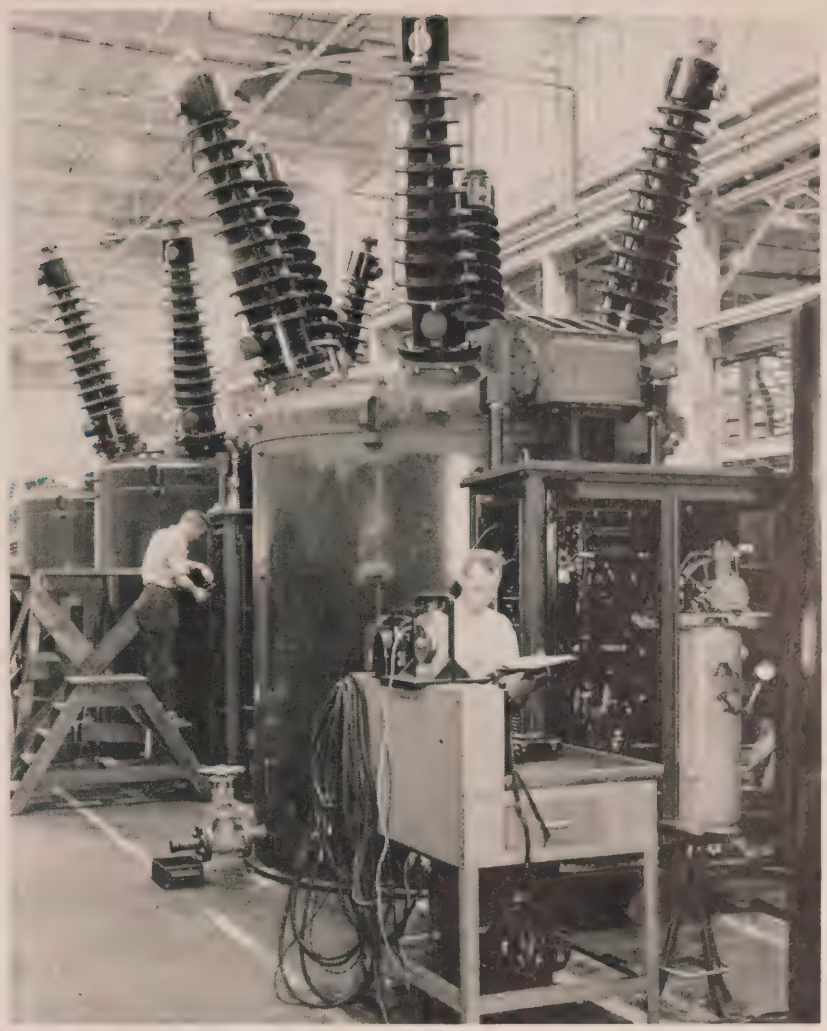
Thanking the Commission for its support recently, F. A. Lashley, Secretary-Manager of Ontario Plowmen's Association, sponsors of the "Match," reported that this year's event held at Carp, 21 miles west of Ottawa, attracted about 85,000 spectators, with 578 entries in plowing events and 51 in welding competitions. Next year's event will be held in Northumberland County near Cobourg.





ABOVE—Ontario Hydro Demonstrator Clare Burt had an attentive audience in the Commission's display tent during his talk on the model electrified farm. RIGHT—Ontario Hydro prize of $50 in Class 5 tractor competition was presented to Bill Snowden, Nanticoke, left, by O. S. Luney, Manager, Eastern Region, Ottawa. Clark Young, Treas., Ontario Plowmen's Association, is shown centre during the presentation of the prize.

FOTO-NEWS



WORLD'S FIRST— With rapid expansion and the dramatic increase in the amount of power being transmitted over electrical systems, the development and production of these new, 115 kv. single tank power circuit breakers — the first in the world with an interrupting capacity of 5,000,000 kva. — at the Hamilton plants of the Canadian Westinghouse Company Ltd., is of the utmost significance. The new breaker is designed to clear a fault on a transmission line in less than one-twentieth of a second.



SURPRISE PRESENTATION— Hydro Chairman Robert H. Saunders was the recipient of a surprise presentation at the conclusion of his recent address to the Niagara District Electric Club at Hamilton. On behalf of the club, General Manager A. W. Bradt, Hamilton Hydro-Electric Commission, second from right, presented a beautiful mantel radio to Mr. Saunders in moving a vote of thanks to the Hydro Chairman. Earlier in the day several Ontario Hydro representatives and other guests toured the new headquarters of the Hamilton Hydro Commission. Photo shows left to right: Rod McLean, Northern Electric Co.; Mr. Saunders, R. H. Lindley, President of the Niagara Dist. Electric Club; Mr. Bradt, and Mayor Lloyd Jackson, Hamilton.



THREE MEN behind the success of the meeting were, left to right, C. E. Hodgson, Western Region, London; J. F. Cook, Windsor Utilities Comm., and C. W. Eastwood, London Commission.

Service Stressed

Hydro employees should realize fact they are public servants, speakers tell Western A. M. E. U. Conference delegates



TWO EASTERN ONTARIO REPRESENTATIVES, George A. Phillips Jr., Smith Falls, left, and Cecil Lewis, Ottawa, also attended meeting.

PRAISE for provincial and municipal commission accountants was voiced by W. Ross Strike, Q.C., Ontario Hydro's Second Vice-Chairman, at the recent annual conference of the A.M.E.U. Western Ontario Accounting and Office Administration Committee.

Held at London, the 20th annual meeting attracted a large attendance of accounting and office administration personnel from 67 local public utilities and Hydro commissions in Western Ontario, as well as Ontario Hydro delegates from Toronto and five regional offices.

Other featured speakers on the one-day program were James W. Hammond, Assistant General Manager, Hamilton Hydro-Electric System, and Ray Pfaff, Manager, St. Catharines Public Utilities Commission. Mr. Hammond's address consisted of an interesting commentary on public relations, while Mr. Pfaff outlined the procedure followed by his commission in preparing a system operating analysis.

Strict Adherence

In commending accounting and office employees of the various utilities throughout the province, Mr. Strike cited their strict adherence to the fundamental principle that all public utility funds be used for the benefit of the customer as particularly noteworthy.

The speaker revealed that visitors from



WITNESSING demonstration of business machine were Frank Gomer, Toronto Region; John Gomer, Toronto Twp.; Miss Annie Early, Ridgetown, and James Cameron, New Toronto.

other countries marvelled how this principle had been preserved through the years and why the revenues of the commissions had not been raided by other parent bodies.

"These visitors tell us," Mr. Strike continued, "that such strict accounting of public funds would be, from their standpoint, a most difficult achievement."

Dealing with the growth of Hydro, side by side with industry, the speaker described it as "the largest organization in this country, in fact, one of the largest single utility corporations in the world."

Increased Responsibilities

Referring to the increased responsibilities that are the natural corollary of this growth, the speaker asserted that it had imposed a new set of obligations.

"We must guard against becoming rigid and so tangled up with red tape that we strangle ourselves," he stated.

Emphasizing the importance of co-operation between Ontario Hydro's regional offices and the local commissions in accounting practise, Mr. Strike said this unity is necessary "if we are to maintain financial stability."

The value of individual as well as collective responsibility to the customers was stressed by the speaker who urged that each employee realize the fact that they are public servants.

Warning against the dangers attending a complacent attitude, Mr. Strike called for the best effort of each employee at all times. Each person should find ways of becoming a better employee and collectively overcoming the mistake "of being so big that we slow ourselves down."

Must "Pitch In"

In conclusion he stated: "We are endeavouring to knit this organization into one big family. We will succeed only if everyone is willing to pitch in and pull his weight."

Mr. Strike was introduced by V. A. McKillop, General Manager, London P.U.C., and the vote of thanks was extended by N. A. Grandfield, General Manager, Galt P.U.C., who also brought greetings on behalf of R. H. Martindale, President of the parent A.M.E.U. Luncheon chairman was J. F. Cook, Windsor, who along with his committee members, C. E. Hodgson, and C. W. Eastwood, London, were responsible for arranging the conference.

Public Relations

Speaking during the afternoon session, Mr. Hammond told the 200 or more delegates that "public relations must start with the thorough understanding that we are servants of the public."

Each customer must receive a feeling that his business or patronage, no matter how big or small, is appreciated, he said. Courtesy at all times, whether during telephone conversations or personal contacts, was one method of engendering this impression of good will.

"Good public relations," Mr. Hammond said, "is something that cannot be too highly valued."

C. E. Hodgson presided as chairman during the morning and afternoon sessions. R. J. Cooksley, Public Relations Division, H.E.P.C., presented Kodachrome slides and a commentary on Des Joachims and Sir Adam Beck-Niagara No. 2 Generating Stations.

CONFERENCE SPEAKERS included l. to r., R. J. Cooksley, Ontario Hydro; James W. Hammond, Ass't. Gen. Mgr., Hamilton H.E.C., and Ray Pfaff, Gen. Mgr., St. Catharines P.U.C.

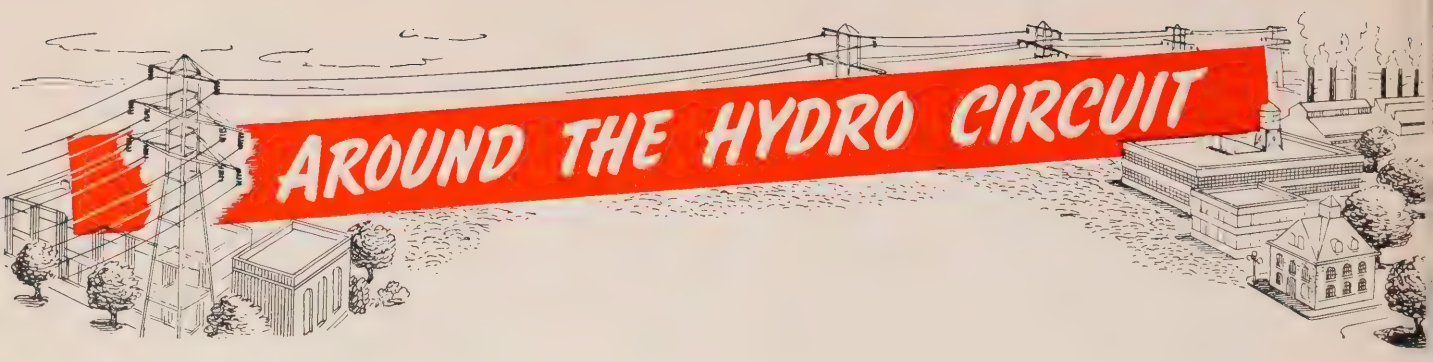


CHECKING registration fees were Western Region representatives, Harry Ellis and Robert Pitt, seated, and C. W. Eastwood, London P.U.C.





W. ROSS STRIKE, Second Vice-Chairman, Ontario Hydro, was speaker at the conference luncheon. Shown here is a section of the large crowd of delegates in attendance.



ST. THOMAS CUSTOMERS LIKE NEW OFFICE

CUSTOMER satisfaction with the facilities of the new St. Thomas PUC building was emphasized recently when a large majority indicated they preferred paying their bills at the office to payments at local banks on a fee basis.

In a poll, conducted by the local commission by means of a questionnaire inserted in the monthly bills, some 4,750 customers expressed a preference for the office payment plan as compared with 550 in favor of the collection agency system.

Better parking facilities, and improved customer accommodation in the new building was a deciding factor it was pointed out.

PURCHASE STAYNER PROPERTY

Purchase of property from the Town of Stayner as the site for a storage building of Stayner Rural Operating Area has been approved by the Commission. The property is located in the main business section of the town.

GALT POWER USE ON THE UPTREND

GALT Public Utilities Commission reports an increase in consumption of 2,000,000 kilowatthours during the first six months of this year, compared with the same period last year. From January to June of this year, there was a total of 31,880,000 kwhrs. used, compared with 29,520,000 kwhrs. consumed in the same period of 1951.

During the first six months of 1951, the peak monthly load and consumption dropped as the year progressed. This year, the trend was reversed, with the June load for this year, nearly 1,300 kilowatts over last year.

HEADS COUNCIL

A. S. Robertson, Manager of Ontario Hydro's Niagara Region, and Vice-President of the Greater Niagara Hospital Board has been elected President of the Niagara District Hospital Council.

More Lights for Christmas

"CAN snow be far behind . . ." was the question in the minds of Kitchener's citizens as they watched workmen installing a new distribution line recently in readiness for the Christmas lighting at the city hall.

The Kitchener Horticultural Society is responsible for the decorations and from a modest beginning, some years ago, has improved the lighting so that now, Kitchener is widely known for its beautiful and colorful Yuletide lighting displays.

Blackouts at council meetings are a thing of the past, it is predicted, with the extra wiring and separate control panel for Christmas lighting at the city hall.

This year the Kitchener Society plans to have extra decorative lighting which will almost encircle the city's civic headquarters.

Plan Debenture Issue

WALLACEBURG Hydro-Electric Commission has asked the town council to raise $200,000 by debenture issue to finance necessary plant expenditures. Part of these costs are connected with the frequency standardization program now in progress in the town.

A total of $235,000 will be spent, $35,000 of which will be met from current assets of the commission. The debenture issue will be of the serial type bearing interest at four and one-half percent for a ten-year term, callable, all or in part, after five years.

Proposed expenditures include: cost of a new sub-station, $125,000; plant expansion, $25,000; a new primary feeder and submarine cable under the Sydenham River, $15,000; and estimated cost of frequency standardization, $70,000.

CONSUMPTION HEAVIER

BARRIE Public Utilities Commission reports an increase of 14.3 percent in domestic consumption for the first seven months of this year, compared with the same period last year. An increase of 18.2 percent in commercial consumption was recorded, while a decrease of 11 percent is reported in the industrial power column.

Beaming with happiness over the enthusiastic reception his campaign address had received, the veteran politician bowed himself off the stage and into the midst of his faithful co-workers who awaited him in the wings.

"That speech was great," cried one starry-eyed supporter, "You certainly made yourself clear on the provincial rights question."

"My gosh!" muttered the old campaigner, "what a blunder!"

LAUNCH CHANGEOVER IN ESSEX COUNTY

WITH the inventory phase of Windsor's 25 to 60-cycle "Operation Changeover" now completed, Ontario Hydro has begun listing of all frequency-sensitive electrical equipment in the rest of standardization "Area F"—including the Essex County municipalities of Tecumseh, St. Clair Beach, Belle River, Amherstburg, Harrow, Riverside, La Salle, Leamington, Kingsville, Wheatley, Essex, Cottam, and surrounding rural areas.

Actual changeover in "Area F" will get underway the first of May next year, immediately following completion of standardization in the City of Windsor itself. The task of altering equipment owned by the 32,451 domestic and commercial customers in the area will take approximately 16 months to carry out, with the final "cutovers" scheduled to be made toward the end of August 1954.

Dresden Operations

STANDARDIZATION operations, now more than 60 percent completed in the Wallaceburg-Dresden area, began in the town of Dresden on December 9 this year.

The work of altering frequency-sensitive electrical equipment in 771 Dresden homes, commercial premises, and factories will continue until January 12, with 5-day interruptions at Christmas and New Years for the convenience of customers themselves.



"Can you recommend something that will grow—er, nevermind."

—American Druggist.



DR. OTTO HOLDEN



J. J. TRAILL

Elected to Varsity Senate

ELECTION of Dr. Otto Holden, the Commission's Assistant General Manager—Engineering, to the Senate of the University of Toronto as one of the six representatives of the graduates in Applied Science and Engineering was announced recently by President Dr. Sidney Smith.

G. M. M. Crossgrove, London, was also named a Science and Engineering representative in the 1952 quadrennial election when 33 new senators were elected and 26 sitting members were returned by election or acclamation.

Re-elected for another four-year term was J. J. Traill, Hydraulic Engineer on the staff of Hydro's Generation Department. Mr. Traill is also a representative of the Applied Science and Engineering graduates.

Dr. Holden graduated from Varsity with a B.A.Sc. degree, later receiving the postgraduate degree of C.E. In 1944 he was honored by his Alma Mater when the degree of Doctor of Engineering was conferred on him. He has been associated with the Commission since 1913. He is a member and a former Councillor of the Engineering Institute of Canada; a member of the American Society of Civil Engineers; Past President of the Engineering Alumni Association of the University of Toronto, and Past President of the Royal Canadian Institute.

Mr. Traill graduated from the University of Toronto with a B.A.Sc. degree in 1906 and received his C.E. degree 13 years later. For 14 years he served on the staff of the university as a lecturer and later as Assistant Professor of Hydraulics. In 1920 he joined the staff of the Commission.

Both men have contributed several papers to technical societies which have been published in the journals of these organizations.

It is also worthy of note that A. W. Murdock, Ontario Hydro Rates Study Engineer, is an appointed member of the U. of T. Senate representing the Association of Professional Engineers of Ontario.

FORT HEADS A.M.E.U. GROUP

AT the recent annual meeting of the A.M.E.U., West Central Region in the Kress Hotel, Preston, delegates heard papers on industrial welder loads, and the effect on municipal commissions of the recent utility taxation legislation. N. A. Grandfield, Galt, acted as chairman.

O. J. Little, Preston PUC Chairman, formally opened the meeting and extended a welcome to all out-of-town members. He complimented the Association on its efforts in strengthening the voice of various municipalities in Hydro affairs, and with setting up standards of procedure.

New officers elected were: President, A. E. Fort, St. Marys; Vice-President, A. W. Bromley, Kitchener, and Secretary-Treasurer, H. B. Mattson, Preston.

O.M.E.A. President Dies Suddenly

"Not often is the heart of this community so touched as by the sudden death of Frank Plant."

THE foregoing tribute from the *Ottawa Evening Journal* was typical of the sentiments expressed by a host of Hydro associates and friends on learning of the sudden and lamented passing of the Chairman of the Ottawa Hydro-Electric Commission on November 7 at his home.

Born in London in 1883, the deceased was educated in that city, and started life as a printer's apprentice on the *London Advertiser*. In 1900 he moved to Ottawa with his family when his father joined the Department of Labor.

Following his father in public service, "Frank," as he was known to his many friends, served as alderman in 1917-1918. In 1920 he headed the polls as controller. Not only did he rise to become thrice Mayor of Canada's Capital City, but he set a precedent when he was elected for a fourth term by popular acclamation in 1930.

In 1936 he was appointed a member of the Ottawa Hydro-Electric Commission and the following year was elected Chairman.

Semi-Annual Report

During his lengthy term as Chairman, Mr. Plant inaugurated the policy of presenting a report semi-annually to the members of city council and the press at a dinner in the Chateau Laurier.

At such gatherings, he delivered a comprehensive verbal statement on Ottawa Hydro affairs and future plans without the use of a single written note.

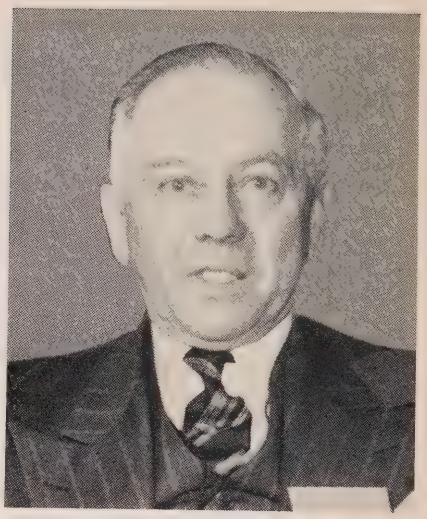
On January 1, 1950, the Ottawa Hydro Commission purchased the assets of the Ottawa Light, Heat & Power Co. Ltd., with Mr. Plant playing a significant part in the negotiations. Due to the combined business of these two organizations, it became necessary for him to devote practically all of his time to the Chairmanship of the Ottawa Hydro-Electric Commission.

Elected O.M.E.A. President

Active in the affairs of the Ontario Municipal Electric Association, he was, for several years, President of the Eastern O.M.E.A., and this year was honored with election to the Presidency of the parent body.

One of his last official acts as President of the O.M.E.A. was a visit, three days previous to his death, to Hydro's Niagara project where he donned rubber boots and coat to make a first-hand inspection of a section of one of the two tunnels. The occasion was the visit of delegates from Hydro's Northwestern Region, along with executive members of the O.M.E.A. and the A.M.E.U. The visitors also attended a meeting of District 5 O.M.E.A. at Thorold.

Although he was more concerned with the welfare and progress of the city as a whole, Frank Plant also enjoyed club life. In addition to his executive work with the Ottawa Kennel Club, he was a member of the Ottawa Hunt and Golf Club, the Abitibi Fish and Game Club, formerly the Laurentian Club.



The late F. H. PLANT

Apart from his devoted interest in Ottawa Hydro and other community projects, he was, in business life, the President of Oatley Investments Limited.

Tributes

Hydro Chairman Robert H. Saunders spoke of Mr. Plant's passing as a great loss to Hydro throughout the province.

"It has been my privilege to know Frank Plant for the past 4½ years. He has been a very hard worker in the interests of Hydro across Ontario and particularly for the people of Ottawa."

Left to mourn his death are his wife, the former Ethel Louise Low; one daughter, Mrs. Fred York, and one son, Frank O. Plant.

Funeral services were held at St. Matthew's Anglican Church which the deceased had helped to build.

Funeral Services

Officiating were Rt. Rev. Robert Jefferson, Lord Bishop of Ottawa Diocese, who gave the eulogy, and other ranking church dignitaries, including the Rector, Rev. R. Eric Osborne. Interment was made in Beechwood Cemetery.

Pallbearers were: Hydro Chairman Robert H. Saunders, Ottawa Controllers L. L. Coulter, Dan McCann and F. Harrison, G. R. Davis General Manager, Ottawa Hydro; H. H. McElroy, Secretary-Manager, Central Canada Exhibition Association; T. P. Gorman, and Bert H. Dowler.

Honorary pallbearers were: Mayor Charlotte Whitton, Hon. George H. Challies and W. Ross Strike, D. P. Cliff, W. R. Mathieson, Loftus H. Reid, H. O. Hawke, Stanley Lewis, Charles Paul, William Winters, and O. S. Luney.

Lighting the Way

NIGHT motorists approaching the southern limits of Winchester today are presented with a picture different from that of ten years ago—even five years ago. We are referring to the broad expanse of lighted farm homes visible from the highway, which seem to blend into the more densely-lighted town, and which remind the motorist of the suburbs of a city rather than a small town. The night panorama of lighted farm premises is more visible at this time of year when evenings are clear and cool, and trees and shrubs have become bare, leaving a distant view of the flat fertile terrain that surrounds the village.

These newly-lit farms, which seem to have sprung up in the last few years, not only indicate a picture depicting the growth of prosperous farming, but are relative to the continued march of progress by Ontario Hydro, and are significant of the rising importance of Eastern Ontario as a leading industrial and agriculture centre in the province.—**Winchester Press.**

250,000 CUSTOMERS

(Continued from page 5)

the size of the "25-cycle island" by more than 4,800 square miles.

The tremendous project utilizes the full-time services of 832 members of Ontario Hydro's Frequency Standardization staff, while the Commission's contractor has a staff of 1,526 employed on changeover.

This essentially mobile program necessitates the use by the Commission and its contractor of some 1,370 vehicles of many types which, in three years, have travelled approximately 20,000,000 miles on the highways and county roads of the Southern Ontario system.

New techniques introduced included an improved method of changing over domestic meters, rewinding fractional 25-cycle motors on an assembly line basis in the Commission's own engineering workshop at Islington, and the production by manufacturers of equipment operable at both 25 and 60 cycles (dual frequency). These new techniques will result in economies estimated at more than $25,000,000 during the course of the program.

Changeover procedures are under constant critical review by Hydro's Frequency Standardization Division engineers in the attempt to discover methods by which further economies may be effected.

A big problem which confronted the Commission was the increased demand for 25-cycle power, which at one time threatened almost to equal the pace of standardization. Hydro faced up to this problem by formulating plans early in 1951 to make 60-cycle power available in advance of general standardization in 26 municipalities for industry and new housing developments in cases where economies could be made. To the end of September 1952, negotiations had been concluded to supply this advance 60-cycle power to 260 industries representing a total connected load of 147,052 horsepower.

CLASSIFIED ADS

FOR SALE

Three General Electric, 75 KVA, 25-cycle, 2300/115-230 volt Type "H" Transformers—Manufactured 1946 Serials 202837, 202838, 202839. These Transformers have never been used. Sale price $3,000.00, F.O.B., Amherstburg, Ontario. **Kindly address inquiries to Mr. N. E. Wilson — Manager, Amherstburg Public Utilities Commission, Amherstburg, Ontario.**

Advance Changeover Dates

AN advance in changeover operations for several western Ontario municipalities has been announced by the Commission. Following a re-adjustment in schedules, standardization in Area "E," i.e., Listowel, Palmerston, Harriston and surrounding districts—tentatively planned for next April—has been brought forward to February, 1953.

Standardization in these areas will be undertaken as follows:

Customers		
Domestic	Commercial	Changeover to 60 cycles
	PALMERSTON PUBLIC UTILITIES COMMISSION	
505	113	Last three weeks of February, 1953
	LISTOWEL PUBLIC UTILITIES COMMISSION	
1,100	213	Last week of February and month of March, 1953
	HARRISTON HYDRO-ELECTRIC COMMISSION	
477	123	Last week of March, first two weeks of April, 1953
	CLIFFORD HYDRO-ELECTRIC COMMISSION	
160	52	Third week of April, 1953
	LISTOWEL RURAL OPERATING AREA	
	(Harriston Distributing Station)	
341	14	Last two weeks of April, 1953
	LISTOWEL R.O.A.	
	(Palmerston and Rothsay D.S.)	
725	42	Month of May, 1953
	ELMIRA R.O.A.	
	(Rothsay D.S.)	
161	0	First week of June, 1953
	MOORFIELD HYDRO-ELECTRIC SYSTEM	
96	40	First two weeks of June, 1953
	DRAYTON HYDRO-ELECTRIC COMMISSION	
213	51	Second and third weeks of June, 1953
	LISTOWEL R.O.A.	
	(Wallace D.S.)	
1,210	106	Last two weeks of June, first two weeks of July, 1953
	LISTOWEL R.O.A.	
	(Atwood D.S.)	
687	71	Last three weeks of July, 1953
	MITCHELL R.O.A.	
	(Moncton D.S.)	
578	33	Last two weeks of August, 1953
	MILVERTON HYDRO-ELECTRIC COMMISSION	
344	82	First two weeks of September, 1953
	LISTOWEL R.O.A.	
	(Milverton D.S.)	
917	71	Last three weeks of September, 1953

Go Ahead Canada; Best of Luck

(From an Editorial in the Milwaukee Journal)

THE United States has, in effect, served notice on Canada that it had better go ahead with the Great Lakes-St. Lawrence seaway. This country is turning its back on the pioneer tradition which accepted frontiers as a challenge to national development.

The 43 to 40 vote by which the Senate has sent the project back to its foreign relations committee "for further study" (practically killing it) is a victory for dimming vision, sectional jealousy and provincialism. It is a victory for the lobbies which fought the seaway to protect narrow economic interests. As Senator Tobey (Rep., N.H.) said of many of the senators who voted to kill the seaway: "Lobbies to the right of them, lobbies to the left of them, volleyed and thundered" and they knuckled under.



IT'S AMAZING, seems to be the general consensus as J. Marsh Bogart, Sangamo Co. Ltd., right, explains meter intricacies to Sid Wilson, Toronto, left; Vernon May, St. Catharines; Alex Russell, Thorold; Don Morrison, Niagara Falls; Stan Glaab and Charles McGhie, both of Welland Hydro-Electric Comm.

GUEST DELEGATE Jack Babbitt, Canadian Niagara Power Company, left, discusses meter repair techniques with John Tanner, Stamford Township Public Utilities Comm.



NIAGARA METER GROUP

ADDRESSES dealing with power factor surveys and economics, and the maintenance and frequency standardization of Sangamo meters were highlights of the recent fall meeting of Niagara Region, A.M.E.U. Section. Held at Dunnville's Legion Hall the meeting was in charge of Chairman John Dawson, Manager, Dunnville P.U.C.

In his address, Norman Lake, Industrial Survey Engineer, Ontario Hydro, emphasized the value of obtaining the power factor at the time of peak load and outlined the procedure for factor correction, which, he said, could effect notable reductions in power costs. J. Marsh Bogart, Sangamo Company Limited, Toronto, illustrated his address by completely dismantling meters, and proceeding in the recommended method of replacing or repairing the various parts of the meters. In referring to meter standardization, Mr. Bogart drew attention to the implicit requirements laid down for this operation.

Dinner served by the Ladies' Auxiliary of the Canadian Legion, and musical selections by George Crumb, Dunnville P.U.C., concluded this successful and interesting meeting.



DEMONSTRATION BOARD prepared by John Dawson, Manager, Dunnville P.U.C., left, was used to show latest method of wiring meters. Discussing new regulation is Fred Schooley, Welland H.E.S.

1953 CALENDAR

JANUARY

SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

FEBRUARY

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

MARCH

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

APRIL

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

MAY

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24 31	25	26	27	28	29	30

JUNE

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

JULY

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

AUGUST

SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23 30	24 31	25	26	27	28	29

SEPTEMBER

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

OCTOBER

SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

NOVEMBER

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

DECEMBER

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Greetings

"Peace on Earth"

"That blessed mood,
In which the burden of the mystery,
In which the heavy and the weary weight
Of all this unintelligible world,
Is lightened."

Wordsworth



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Ontario. Hydro-Electric Power Commission
Hydro news.
v.38-39 (Jan.1951-Dec. 1952)

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